USER MANUAL

version 4.00

SmartMatriX

ANALOG WAY

THANK YOU

Thank you for choosing Analog Way. By following these simple steps, you should be able to operate the powerful **Smart MatriX (SMX200)**.

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1-1. THE SMART MATRIX OPERATING MODE

Before you start setting up your **Smart MatriX (SMX200)** for the first time, be sure you know what you actually want to do with it. The **Smart MatriX** offers one operating mode, which results in a versatile video production tool for live event staging and fixed installation applications.

*** NOTE * :** We recommend resetting the device to its default values every time you set up your shows or events (see the "*Operating The Smart MatriX*" chapter, p28).

Native Matrix Mode

This mode turns your **Smart MatriX** into a true 12 x 2 High End Scaled Matrix, while preserving seamless switching capabilities. Main and Preview outputs can be set to different resolutions and rates. Switching between any of the inputs can be done with the various effects (Cut, Fade, Slides…) and synchronized on both outputs.

1-2. USEFUL TERMS AND DEFINITIONS

BACKGROUND: a “Background” is a source, typically originating from a computer. **Smart MatriX** enables you to work with live or still (frame) background sources - visually in back of all other sources.

LAYER: a “Layer” is an image display element (such as a PIP window, Key, Logo(s) or Background) that has an associated visual priority — either in front (or in back) of another layer.

The **Smart MatriX** can simultaneously view no less than 4 layers (2 video, 1 frame & 1 Logo, per output). **Smart MatriX** can insert up to 2 PIPs on a live background, plus 2 logos.

PIP: a “PIP” (Picture In Picture), is a picture, typically of reduced size, which is positioned over another background image or PIP. PIPs can be reduced, enlarged and bordered. PIPs can overlap, depending on their visual priority.

Smart MatriX allows for Dynamic PIP on the opening and closing of the sequence, vertically or horizontally. A “Flying” PIP is also possible over the screen with vertical, horizontal or diagonal animation. A PIP is considered as a live layer.

FRAME: a “Frame” is a full screen image which is selected from one of the eight still frames which you can capture with the **Smart MatriX**. A Frame can be flash captured and imported from any video or computer source plugged into the machine.

LOGO: a “Logo” is a part of screen image that can be flash captured and imported from any Video or Computer source, by keying or image cut-out. **Smart MatriX** can record up to 8 still logos. They can be positioned anywhere on the screen. An animated logo is also available on the eighth input.

KEYING: a “Key” is an electronic process whereby an image is electronically superimposed over another source or background, by cutting out either a color (Chroma Key), or its brightness or luminance levels (Luma Key). Keys are typically used for titles, logos and special effects.

Smart MatriX allows to use a live source with green or blue background and to key it over any other live input.

2-1. SAFETY INSTRUCTIONS

SAFETY INSTRUCTIONS

CAUTION:

All of the safety and operating instructions should be read before the product is operated and should be maintained for further reference. Please follow all of the warnings on this product and its operating instructions.

- **WARNING:** To prevent the risk of electric shock and fire, do not expose this device to rain, humidity, intense heat sources (such as heaters and direct sunlight). Slots and openings in the device are provided for ventilation and to avoid overheating. Make sure the device is never placed near a textile surface that could block the openings. Also keep away from excessive dust, vibrations and shocks.

- **POWER:** Only use the power supply indicated on the device of the power source. Devices equipped with a grounding plug should only be used with a grounding type outlet. In no way should this grounding be modified, avoided or suppressed.

- **POWER CORD:** The device is equipped with a main switch [On (I) /Off (O)]. The Switch ON and OFF is initiated by the main switch.

  Caution: The power cord constitute the only mean to totaly disconnect the equipment from the main power.
  Apply the following guidelines :
  - The equipment connected to the network must have a release system easily accessible and located outside the unit.
  - Unplug the power cord, do not pull on the power cord but always on the plug itself.
  - The outlet should always be near the device and easily accessible.
  - Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them.

If the power supply cord is damaged, unplug the device. Using the device with a damaged power supply cord may expose your device to electric shocks or other hazards. Verify the condition of the power supply cords once in a while. Contact your dealer or service center for replacement if damaged.

- **CONNECTIONS:** All inputs and outputs (except for the power input) are TBTS defined under EN60950.

- **SERVICING:** Do not attempt to service this product yourself by opening or removing covers and screws since it may expose your device to electric shocks or other hazards. Refer all problems to qualified service personnel.

- **OPENINGS:** Never push objects of any kind into this product through the openings. If liquids have been spilled or objects have fallen into the device, unplug it immediately and have it checked by a qualified technician.

INSTRUCTIONS DE SECURITE

Afin de mieux comprendre le fonctionnement de cet appareil nous vous conseillons de bien lire toutes les consignes de sécurité et de fonctionnement de l'appareil avant utilisation. Conservez les instructions de sécurité et de fonctionnement afin de pouvoir les consulter ultérieurement. Respectez toutes les consignes marquées dans la documentation, sur le produit et sur ce document.

- **ATTENTION:** Afin de prévenir tout risque de choc électrique et d'incendie, ne pas exposer cet appareil à la pluie, à l'humidité et aux sources de chaleur intense.

- **INSTALLATION:** Veillez à assurer une circulation d'air suffisante pour éviter toute surchauffe à l'intérieur de l'appareil. Ne placez pas l'appareil sur ou à proximité d'une surface textile susceptible d'obstruer les orifices de ventilation. N'installez pas l'appareil à proximité de sources de chaleur comme un radiateur ou une poche d'air chaud, ni dans un endroit exposé au rayonnement solaire direct, à des poussières excessives, à des vibrations ou à des chocs mécaniques. Ceci pourrait provoquer un mauvais fonctionnement et un accident.

- **ALIMENTATION:** Ne faire fonctionner l'appareil qu'avec la source d'alimentation indiquée sur l'appareil. Les appareils doivent être obligatoirement connectés sur une source équipée d'une mise à la terre efficace. En aucun cas cette liaison de terre ne devra être modifiée, contournée ou supprimée.

- **CORDON D'ALIMENTATION:** Les appareils sont équipés d'un interrupteur général (Marche I / Arrêt O), la mise en tension et la mise hors tension se fait en actionnant cet interrupteur général. ***Attention:*** le cordon d'alimentation constitue le seul moyen de débrancher l'appareil totalement de l'alimentation secteur. Pour être certain que l'appareil n'est plus alimenté, ce cordon doit être débranché de la prise murale.
  Appliquer les consignes suivantes :
  - Le matériel relié à demeure au réseau, doit avoir un dispositif de sectionnement facilement accessible qui doit être incorporé à l'extérieur de l'appareil.
  - Débrancher le cordon d'alimentation de la prise murale si vous prévoyez de ne pas utiliser l'appareil pendant quelques jours ou plus.
  - Pour débrancher le cordon, tirez-le par la fiche. Ne tirez jamais sur le cordon proprement dit.
  - La prise d'alimentation doit se trouver à proximité de l'appareil et être aisément accessible.
  - Ne laissez pas tomber le cordon d'alimentation et ne posez pas d'objets lourds dessus.

Si le cordon d'alimentation est endommagé, débranchez-le immédiatement de la prise murale. Il est dangereux de faire fonctionner un appareil avec un cordon endommagé; un câble abîmé peut provoquer un risque d'incendie ou un choc électrique. Vérifiez le câble d'alimentation de temps en temps. Contactez votre revendeur ou le service après-vente pour un remplacement.

- **CONNEXIONS:** Toutes les entrées et sorties (exceptée l'entrée secteur) sont de type TBTS (Très Basse Tension de Sécurité) définies selon EN 60950.

- **RÉPARATION ET MAINTENANCE:** L'utilisateur ne doit en aucun cas essayer de procéder aux opérations de dépannage, car l'ouverture des appareils par retrait des capots ou de toutes autres pièces constituant les boîtiers ainsi que le dévissage des vis apparentes à l'extérieur, risquent d'exposer l'utilisateur à des chocs électriques ou autres dangers. Contactez le service après-vente, votre revendeur ou s'adresser à un personnel qualifié uniquement.

- **OUVERTURES ET ORIFICES:** Les appareils peuvent comporter des ouvertures (aération, fentes, etc...), veuillez ne jamais y introduire d'objets et ne jamais obstruer ses ouvertures. Si un liquide ou un objet pénètre à l'intérieur de l'appareil, débranchez immédiatement l'appareil et faites-le contrôler par un personnel qualifié avant de le remettre en service.

INSTRUZIONI DI SECUREZZA

Allo scopo di capire meglio il funzionamento di questa apparecchiatura vi consigliamo di leggere bene tutti i consigli di sicurezza e di funzionamento prima dell'utilizzo. Conservare le istruzioni di sicurezza e di funzionamento al fine di poterle consultare ulteriormente. Seguire tutti i consigli indicati su questo manuale e sull'apparecchiatura.

- **ATTENZIONE:** Al fine di prevenire qualsiasi rischio di shock elettrico e d'incendio, non esporre l'apparecchiatura a pioggia, umidità e a sorgenti di eccessivo calore.

- **INSTALLAZIONE:** Assicuratevi che vi sia una sufficiente circolazione d'aria per evitare qualsiasi surriscaldamento all'interno dell'apparecchiatura. Non collocare l'apparecchiatura in prossimità o su superfici tessili suscettibili di ostruire il funzionamento della ventilazione. Non installate l'apparecchiatura in prossimità di sorgenti di calore come un radiatore o una fuoruscita d'aria calda, né in un posto esposto direttamente ai raggi del sole, a polvere eccessiva, a vibrazioni o a shock meccanici. Ció potrebbe provocare un erroneo funzionamento e un incidente.

- **ALIMENTAZIONE:** Far funzionare l'apparecchiatura solo con la sorgente d'alimentazione indicata sull'apparecchiatura. Le apparecchiature queste devono essere obbligatoriamente collegate su una sorgente fornita di una efficiente messa a terra. In nessun caso questo collegamento potrà essere modificato, sostituito o eliminato.

- **CAVO DI ALIMENTAZIONE:** Gli apparecchi con un interrutore (commutatore) generale (Accesso I : Speuto 0), accendere ou spagnere l'apparecchio si fa usando l'interrutore. ***Attenzione:*** il cavo di alimentazione è il solo modo di disconnettere l'apparecchio dell'alimentazione. Per assicurarsi che totalemente l'apparecchio non è più collegato, il cavo deve essere disconesso della presa murale.
  Seguire le instruzioni seguenti:
  - Il materiale collegato a residenza alla rete, deve avere un dispositivo di sezionamento facile da raggiongere eche deve essere inserito all'esterno del apparecchio.
  - Disconnettere l'apparecchiatura dalla presa murale se si prevede di non utilizzarla per qualche giorno.
  - Per disconnettere il cavo tirare facendo forza sul connettore.
  - La presa d'alimentazione deve trovarsi in prossimità dell'apparecchiatura ed essere facilmente accessibile.
  - Non far cadere il cavo di alimentazione né appoggiarci sopra degli oggetti pesanti.

  Se il cavo di alimentazione é danneggiato, spegnere immediatamente l'apparecchiatura. E' pericoloso far funzionare questa apparecchiatura con un cavo di alimentazione danneggiato, un cavo graffiato puó provocare un rischio di incendio o uno shock elettrico. Verificare il cavo di alimentazione spesso. Contattare il vostro rivenditore o il servizio assistenza per una sostituzione.

- **CONNESSIONE:** Tutti gli ingressi e le uscite (eccetto l'alimentazione) sono di tipo TBTS definite secondo EN 60950.

- **RIPARAZIONI E ASSISTENZA:** L'utilizzatore non deve in nessun caso cercare di riparare l'apparecchiatura, poiché con l'apertura del coperchio metallico o di qualsiasi altro pezzo costituente la scatola metallica, nonché svitare le viti che appaiono esteriormente, poiché ció puó provocare all'utilizzatore un rischio di shock elettrico o altri rischi.

- **APERTURE DI VENTILAZIONE:** Le apparecchiature possono comportare delle aperture di ventilazione, si prega di non introdurre mai oggetti o ostruire le sue fessure. Se un liquido o un oggetto penetra all'interno dell'apparecchiatura, disconnetterla e farla controllare da personale qualificato prima di rimetterla in servizio.

SICHERHEITSHINWEISE

Um den Betrieb dieses Geräts zu verstehen, raten wir Ihnen vor der Inbetriebnahme alle Sicherheits und Betriebsanweisungen genau zu lesen. Diese Sicherheits- und Betriebsanweisungen für einen späteren Gebrauch sicher aufbewahren. Alle in den Unterlagen, an dem Gerät und hier angegebenen Sicherheitsanweisungen einhalten.

- **ACHTUNG:** um jegliches Risiko eines Stromschlags oder Feuers zu vermeiden, das Gerät nicht Regen, Feuchtigkeit oder intensiven Wärmequellen aussetzen.

- **EINBAU:** Eine ausreichende Luftzufuhr sicherstellen, um jegliche Überhitzung im Gerät zu vermeiden. Das Gerät nicht auf und in Nähe von Textiloberflächen, die Belüftungsöffnungen verschließen können, aufstellen. Das Gerät nicht in Nähe von Wärmequellen, wie z.B. Heizkörper oder Warmluftkappe, aufstellen und es nicht dem direkten Sonnenlicht, übermäßigem Staub, Vibrationen oder mechanischen Stößen aussetzen. Dies kann zu Betriebsstörungen und Unfällen führen.

- **STROMVERSORGUNG:** Das Gerät nur mit der auf dem Gerät bezeichnete Stromquelle betreiben. Gerät mit geerdeter Hauptstromversorgung muss an eine Stromquelle mit effizienter Erdung angeschlossen werden. Diese Erdung darf auf keinen Fall geändert, umgangen oder entfernt werden.

- **NETZKABEL:** Da die Geräte über einen Hauptschalter (An I/ Aus 0) verfügen, erfolgt die Stromversorgung und -unterbrechung über diesen Hauptschalter.
  Achtung: Das Netzkabel stellt die einzige Möglichkeit dar, das Gerät vollständig vom Netzanschluss zu trennen. Um sicherzustellen, dass das Gerät nicht mehr versorgt wird, muss dieses Kabel aus der Netzsteckdose ausgesteckt werden.

  Bitte beachten Sie die folgenden Hinweise:
  - Wenn Geräte dauerhaft am Netz bleiben, müssen sie über eine leicht zugängliche Trennvorrichtung verfügen, die außen am Gerät angebracht sein muss.
  - Das Kabel mittels dem Stecker herausziehen. Niemals am Stromkabel selbst ziehen.
  - Die Steckdose muß sich in der Nähe des Geräts befinden und leicht zugänglich sein.
  - Das Stromkabel nicht fallen lassen und keine schweren Gegenstände auf es stellen.

  Wenn das Stromkabel beschädigt ist, das Gerät sofort abschalten. Es ist gefährlich das Gerät mit einem beschädigten Stromkabel zu betreiben; ein abgenutztes Kabel kann zu einem Feuer oder Stromschlag führen. Das Stromkabel regelmäßig untersuchen. Für den Ersatz, wenden Sie sich an Ihren Verkäufer oder Kundendienststelle.

- **ANSCHLÜSSE:** Bei allen Ein- und Ausgängen (außer der Stromversorgung) handelt es sich, gemäß EN 60950, um Sicherheits Kleinspannunganschlüsse.

- **REPARATUR UND WARTUNG:** Der Benutzer darf keinesfalls versuchen das Gerät selbst zu reparieren, die Öffnung des Geräts durch Abnahme der Abdeckhaube oder jeglichen anderen Teils des Gehäuses sowie die Entfernung von außen sichtbaren Schrauben zu Stromschlägen oder anderen Gefahren für den Benutzer führen kann. Wenden Sie sich an Ihren Verkäufer, Ihre Kundendienststelle oder an qualifizierte Fachkräfte.

- **ÖFFNUNGEN UND MUNDUNGEN:** Die Geräte können über Öffnungen verfügen (Belüftung, Schlitze, usw.). Niemals Gegenstände in die Öffnungen einführen oder die Öffnungen verschließen. Wenn eine Flüssigkeit oder ein Gegenstand in das Gerät gelangt, den Stecker herausziehen und es vor einer neuen Inbetriebnahme von qualifiziertem Fachpersonal überprüfen lassen.

INSTRUCCIONES DE SEGURIDAD

Para comprender mejor el funcionamiento de este aparato, le recomendamos que le acuidadosamente todas las consignas de seguridad y de funcionamiento del aparato antes de usarlo. Conserve las instrucciones de seguridad y de funcionamiento para que pueda consultarlas posteriormente. Respete todas las consignas indicadas en la documentación, relacionadas con el producto y este documento.

- **CUIDADO:** Para prevenir cualquier riesgo de choque eléctrico y de incendio, no exponga este aparato a la lluvia, a la humedad ni a fuentes de calorintensas.

- **INSTALACIÓN:** Cerciórese de que haya una circulación de aire suficiente para evitar cualquier sobrecalentamiento al interior del aparato. No coloque el aparato cerca ni sobre una superficie textil que pudiera obstruir los orificios de ventilación. No instale el aparato cerca de fuentes de calor como radiador o boca de aire caliente, ni en un lugar expuesto a los rayos solares directos o al polvo excesivo, a las vibraciones o a los choques mecánicos. Esto podría provocar su mal funcionamiento o un accidente.

- **ALIMENTACIÓN:** Ponga a funcionar el aparato únicamente con la fuente de alimentación que se indica en el aparato. Los aparatos deben estar conectados obligatoriamente a una fuente equipada con una puesta a tierra eficaz. Por ningún motivo este enlace de tierra deberá ser modificado, cambiado o suprimido.

- **CABLE DE ALIMENTACIÓN:** Los equipos incluyan interruptor general de alimentación (Encender I / Apagar 0), la puesta en marcha o desconexión se realiza por medio de este interruptor.
  El cable de alimentación constituye el único medio de desconectar el aparato totalmente de la red eléctrica. Para estar seguro de que el aparato no está más alimentado, este cable debe de ser desconectado de la toma de corriente.

  Aplicar las siguientes consignas:
  - El material conectado a residencia a la red informática, debe de tener un dispositivo de seccionamiento fácilmente accesible que debe de ser incorporado al exterior del aparato.
  - Desconectar el aparato del enchufe mural si no piensa utilizarlo durante varios días.
  - Para desconectar el cable, tire de la clavija. No tire nunca del cable propiamente dicho.
  - El enchufe de alimentación debe estar cerca del aparato y ser de fácil acceso.
  - No deje caer el cable de alimentación ni coloque objetos pesados encima de él.

  Si el cable de alimentación sufriera algún daño, ponga el aparato inmediatamente fuera de tensión. Es peligroso hacer funcionar este aparato con un cable averiado, ya que un cable dañado puede provocar un incendio o un choque eléctrico. Verifique el estado del cable de alimentación de vez en cuando. Póngase en contacto con su distribuidor o con el servicio de posventa si necesita cambiarlo.

- **CONEXIONES:** Todas las entradas y salidas (excepto la entrada del sector) son de tipo TBTS (Muy Baja Tensión de Seguridad) definidas según EN 60950

- **REPARACIÓN Y MANTENIMIENTO:** Por ningún motivo, el usuario deberá tratar de efectuar operaciones de reparación, ya que si abre los aparatos retirando el capó o cualquier otra pieza que forma parte de las cajas o si destornilla los tornillos aparentes exteriores, existe el riesgo de producirse una explosión, choques eléctricos o cualquier otro incidente. Contacte el servicio de posventa, a su distribuidor o dirigirse con personal cualificado únicamente.

- **ABERTURAS Y ORIFICIOS:** Los aparatos pueden contener aberturas (aireación, ranuras, etc.). No introduzca allí ningún objeto ni obstruya nunca estas aberturas. Si un líquido o un objeto penetra al interior del aparato, desconéctelo y hágalo revisar por personal cualificado antes de ponerlo nuevamente en servicio.

2-2. UNPACKING AND INSPECTION

1 x **Smart MatriX (SMX200)**
1 x Power supply cord.
2 x DVI male to HD15 female and DVI-D female Breakout Cable
1 x HD15 to 5 BNC cable
1 x Ethernet cross cable (for device update)
1 x Set of 11 audio 5 pin screw terminals

1 x RCS - Remote Control Software (PC only) *
1 x User Manual (PDF version) *
1 x Quick Start Guide (PDF version) *

* *Download on our website:* ***www.analogway.com***

WARNING !

If required, front handles of the device can be dismantled, but with caution.
The original screws removed must not be reintroduced to their location without handles in place.
Substantial damages can occur, including risk of electric shock from the mains voltage.

Only **M4x12mm** screws can be used.
(They are supplied with the unit)

2-3. RACKMOUNT INFORMATION

Tabletop mounting: The **Smart MatriX** can be used directly on a table, the unit is equipped with 4 handy anti-slip rubber feet.

Rack mounting: The **Smart MatriX** is compatible with a 19" enclosure. Please follow the instructions below to install the device in a 19" rack.

Place the device in your rack. Attach the device to the rack by using 4 screws through the front panel holes (screws not included).
Rear fixing is also recommended, in particular for permanent installations. The **Smart MatriX** is equipped with drill holes designed for compatibility with most rackmount braces.
Connect all of the cables of the device and attach them to the rack with the help of tie wraps.

IMPORTANT:

- The openings in the side and rear panels of the device are for cooling. Do not cover these openings to avoid cutting air circulation.
- Be sure that no weight in excess of 2 kg (4.4 Lbs.) is added onto the **Smart MatriX.**
- The maximum ambient operating temperature should not exceed 40°C (104°F).
- The rack and all mounted equipment in it must be reliably grounded according to national and/or local electrical standards.

Dismantling front handles of the device could invalidate warranty on after sales services of your **Smart MatriX**. It is strongly advised to avoid using front handles as rests for your **Smart MatriX,** they are designed for manipulation purposes only.

If required, front handles of the device can be dismantled, but with caution.The original screws removed must not be reintroduced to their location without handles in place. Substancial damages can occur, including risk of electric shock from the main voltage. Only M4x12mm screws can be used. They are supplied with the unit.

2-4. CABLE AND ADAPTOR INFORMATION

A large choice of cables and adaptors are compatible with the **Smart MatriX**. To find which are to be used in your setup, please refer to the Hardware Specifications chapter. Please contact your distributor for a list of available cables and connectors for your **Smart MatriX.**

2-5. HARDWARE SPECIFICATIONS

Description of the input formats supported by the device.

• SDTV

Standard	Size	Frame Frequency	Line Frequency
NTSC	525/480i	59.94Hz / 60Hz	15.735 KHz
PAL	625/576i	50Hz	15.625 KHz
SECAM	625/576i	50Hz	15.625 KHz

• EDTV

Standard	Size	Frame Frequency	Line Frequency
480p	525/480i	59.94Hz / 60Hz	31.47 KHz
576p	625/576i	50Hz	31.25 KHz

• HDTV (RGB or YUV)

Standard	Size	Frame Frequency	Standard
720p	1280x720	50Hz / 59.94Hz / 60Hz	SMPTE 296M
1035i	1920x1035	59.94Hz / 60Hz	SMPTE 260M
1080i	1920x1080	50Hz / 59.94Hz / 60Hz	SMPTE 274M
1080p	1920x1080	23.97Hz / 24Hz / 25Hz / 29.97Hz / 30Hz	SMPTE 274M
1080sF	1920x1080	50Hz / 59.94Hz/60Hz	SMPTE 274M
1080p	1920x1080	50Hz / 60Hz	HDTV

• INPUT FEATURES

Inputs	Format	Signal	Connector	EDID
1			HD15#1	YES
2	SDTV	Analog SDTV	HD15#2	YES
3	EDTV	Analog EDTV	HD15#3	NO
4	HDTV	Analog HDTV	HD15#4	NO
5	Computer	Analog Computer	DVI#1: ANALOG PART	NO
6			DVI#2: ANALOG PART	NO
7	SDTV EDTV	Digital SDTV (Except SDI) Digital EDTV	DVI#1: DIGITAL PART	YES
8	HDTV Computer	Digital HDTV (Except SDI) Digital Computer	DVI#2: DIGITAL PART	YES
9		Digital SDTV	BNC#1	NO
10	SDTV	(SDI only)	BNC#2	NO
11	HDTV	Digital HDTV	BNC#3	NO
12		(SDI only)	BNC#4	NO

• COMPUTER FORMATS

The **SMX200** recognizes the following computer formats (Subsampled formats will be displayed with a degraded quality. For a pixel clock > 165 MHz).

Format	Size	Reduced Blankings	Subsampling
VGA	640x480		
800x480	800x480		
SVGA	800x600		
WVGA	848x480		
XGA	1024x768		
1152x864	1152x864		
1280x600	1280x600		
720p RGB	1280x720		
WXGA	1280x768		
800p RGB	1280x800		
960p RGB	1280x960		
SXGA	1280x1024		
SWXGA	1360x768		
1360x1024	1360x1024		
1366x768	1366x768		
DILA4/3	1364x1024		
SWXGA+	1366x800		
SXGA+	1400x1050		
900p RGB	1440x900		
1600x900	1600x900		
UXGA	1600x1200		
WSXGA+	1680x1050		
1080p RGB	1920x1080	YES	
WUXGA	1920x1200	YES	
1920x1440	1920x1440		YES
2K	2048x1080	YES	
QXGA	2048x1536		YES

• EDID

The EDID is available on inputs #1 & #2 and #7 & #8. The user can modify the EDID choosing from a list of predefined formats and frequencies.

SETTINGS AND INPUT FUNCTIONS

	Analog						DVI-D		SDI			
Settings / Functions	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Auto Settings	YES	YES	YES	YES	YES	YES	YES	YES	N/A	N/A	N/A	N/A
Auto Framing	YES[1]	YES[1]	YES[1]	YES[1]	YES[1]	YES[1]	NO	NO	NO	NO	NO	NO
Blanking Settings	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO
Cropping	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Optimization	YES[1]	YES[1]	YES[1]	YES[1]	YES[1]	YES[1]	NO	NO	NO	NO	NO	NO
Under/Overscan	YES[2]	YES[2]	YES[2]	YES[2]	YES[2]	YES[2]	YES[2]	YES[2]	YES[2]	YES[2]	YES[2]	YES[2]
Aspect Ratio Settings	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Aspect Input Output	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Color Settings	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Advanced settings	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO
2:2 Pulldown	YES[3]	YES[3]	YES[3]	YES[3]	YES[3]	YES[3]	YES[3]	YES[3]	YES[3]	YES[3]	YES[3]	YES[3]
3:2 Pulldown	YES[4]	YES[4]	YES[4]	YES[4]	YES[4]	YES[4]	YES[4]	YES[4]	YES[4]	YES[4]	YES[4]	YES[4]

1/ Analog Computer Input or Analog Video Input (EDTV or HDTV only) *2/ Only Vidéo Input*
3/ Only interlaced 50 Hz *4/ Only interlaced 59.94 Hz to 60 Hz*

• ANALOG COMPUTER

Connectors: Inputs #1 to #4: female HD15. Inputs #5-#6: female DVI-I (analog pins).

Line frequency: Up to 130 kHz (165 MHz Max pixel rate).
Resolution: Up to 1600x1200 @ 165Mhz, 1920x1200px (RB, Max V size: 1200px, Max H size 2048px).
Sync. types: RGBHV, RGB/S, RGsB (Sync On Green).
Levels: R, G, B = 0.7 Vp/p.
H & V Sync = TTL.
Composite Sync = TTL and 0.3 V (negative).
SOG (Sync On Green) = 0.3 V.
Impedance: R, G, B = 75 ohms.
H = 75 ohms or Hi-Z.
V = Hi-Z.

or

• RGB/S - RGsB VIDEO

Connectors: Inputs #1 to# 4: female HD15. Inputs #5-#6: female DVI-I (analog pins).
Frequency: 15.625 kHz - 50 Hz (625 lines).
15.734 kHz - 60 Hz (525 lines).
Levels: R, G, B = 0.7 Vp/p.
SYNC. = 0.3 Vp/p or TTL (negative).
Impedance: RGB = 75 ohms.
SYNC. = 75 ohms or Hi-Z.

or

• COMPONENT

Connectors: Inputs #1 to #4: female HD15. Inputs #5-#6: female DVI-I (analog pins).
Input #8: female HD15.
Frequency: 15.625 kHz - 50 Hz (625 lines).
15.734 kHz - 60 Hz (525 lines).
Levels: Y = 1 Vp/p (0.7 V Luma + 0.3 V Sync.).
Cr / Pr & Cb / Pb = 0.7 Vp/p.
Impedance: 75 ohms.

or

• HDTV - HD-YUV

Connectors: Inputs #1 to #4: female HD15. Inputs #5-#6: female DVI-I (analog pins).
Formats: 720p/576p (60Hz), 1080i (50/60Hz), EDTV, 1080p (50/60Hz Reduce Blanking)
Levels: Y = 1 Vp/p (0.7 V + sync.).
Cr / Pr & Cb / Pb = 1 Vp/p (0.7 V + sync.).
Sync.: Tri-level: ±0.3V (positive/negative).
Bi-level: 0.3V (negative).
Impedance: 75 ohms.

or

• S.VIDEO

Connectors: Inputs #1 to #4: female HD15. Inputs #5-#6: female DVI-I (analog pins).
Standard: PAL/SECAM: 15.625 kHz - 50Hz - 625 lines.
NTSC (3.58 - 4.43 MHz): 15.734 kHz/60Hz/525 lines.
Levels: Y = 1 Vp/p (0.7 V Luma + 0.3 V Sync.).
C = 0.3 Vp/p (Chroma Burst).
Impedance: 75 ohms.

or

• COMPOSITE VIDEO

Connectors: Inputs #1 to #4: female HD15. Inputs #5-#6: female DVI-I (analog pins).
RCA.Standard: PAL / SECAM: 15.625 kHz - 50 Hz - 625 lines.
NTSC (3.58 - 4.43 MHz): 15.734 kHz/60 Hz/525 lines.
Level: 1 Vp/p (0.7 V Luma + 0.3 V Sync.).
Impedance: 75 ohms.

or

• DVI (Digital Video Interface)

Connector: DVI Inputs #1-#2: female DVI-I (digital pins).
Line frequency: Up to 130 kHz (165 MHz Max pixel rate).
Format: Digital Visual Interface (DVI)-TMDS single link.
Resolution: Up to 1600x1200 @ 165Mhz / 1920x1200px
(RB, Max V size: 1200px, Max H size 2048px).

• SD-SDI

Connector: SDI Inputs #1 to #4: female BNC.
Format: SMPTE 259M-C.
Data rate: 270 Mbps serial digital.
Impedance: 75 ohms.

• HD-SDI

Connector: SDI Inputs #1 to #4: female BNC.
Formats: 720p @ 50 / 59.94 & 60 Hz.
1035i @ 50 / 59.94 & 60 Hz.
1080i @ 50 / 59.94 & 60 Hz.
1080p @ 23.97 / 24 / 25 / 29.97 / 30 / 50 & 60 Hz.
1080sF @ 50 / 59.94 & 60 Hz.
Data rate: 1.5 Gbps serial digital - SMPTE 292M.
2.97 Gbps serial digital - SMPTE 425M.
Impedance: 75 ohms.

• AUDIO

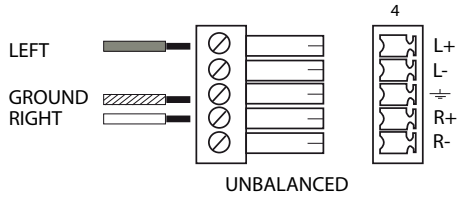
Input#	Stereo	Balanced Audio	Connector
1	YES	YES	Connectors Phoenix 5 pins
2			
3			
4			
5			
6			
7			
8			
9		Non applicable (Embedded Audio SDI)	Non applicable (Embedded Audio SDI)
10			
11			
12			
AUX		YES	Connectors Phoenix 5 pins

AUDIO SETTINGS

Settings	Availability
GAIN	YES: from -∞ to + 18dB
Balanced Audio	YES: Left and Right

• Connector: Balanced or unbalanced mono/stereo inputs
(all pin MCO male connector).
8 audio stereo inputs + 1 auxiliary.
(all balanced / unbalanced).
Vi = +15dBV max.
Zi = 40Kohms (Balanced).

MCO male connectors
Inputs #1 to #6: Balanced & unbalanced connection
Inputs DVI #1 to DVI #2: Balanced & unbalanced connection
Input AUX: Balanced & unbalanced connection

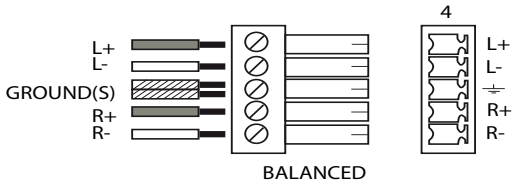


Output specifications

• ANALOG OUTPUTS

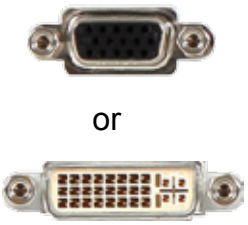
Connector: Outputs #1 (*Main*) & #2 (*Preview*):
female HD15, DVI-I (analog pins).

Outputs #1 to #2: Balanced & unbalanced connection



Resolutions:

FORMAT	RATIO	Available Refresh Rates	Reduced Blanking
640 x 480	4 : 3	50Hz 60Hz 72Hz 75Hz	
800 x 600	4 : 3	50Hz 60Hz 72Hz 75Hz	
848 x 480	16 : 9	50Hz 60Hz 72Hz 75Hz	
1024 x 768	4 : 3	50Hz 60Hz 72Hz 75Hz	
1280 x 720	16 : 9	50Hz 60Hz	
1280 x 768	15 : 9	50Hz 60Hz 72Hz 75Hz	
1280 x 800	16 : 10	50Hz 60Hz 72Hz 75Hz	
1280 x 1024	5 : 4	50Hz 60Hz 72Hz 75Hz	
1360 x 768	16 : 9	50Hz 60Hz 72Hz 75Hz	
1366 x 800	15 : 9	50Hz 60Hz 72Hz 75Hz	
1400 x 1050	4 : 3	50Hz 60Hz 72Hz 75Hz	
1440 x 900	16 : 10	50Hz 60Hz 72Hz 75Hz	
1600 x 1200	4 : 3	50Hz 60Hz	
1680 x 1050	16 : 10	50Hz 60Hz	
1920 x 1080	16 : 9	50Hz 60Hz 72Hz 75Hz	YES
1920 x 1080 B	16 : 9	50Hz 60Hz	YES
1920 x 1080 C	16 : 9	50Hz 60Hz	YES
1920 x 1080 HD	16 : 9	50Hz 60Hz	YES
1920 x 1200	16 : 10	50Hz 60Hz	YES
2048 x 1080	19 : 10	50Hz 60Hz	YES



Signals: RGBHV, RGBS and RGsB.
Levels: R, G, B = 0.7 Vp/p.
Sync. : Separate H & V = TTL (negative).
Composite = TTL (negative).
SOG = 0.3 Vp/p (negative).
Impedance: R, G, B = 75 ohms.

• DVI (Digital Video Interface) OUTPUTS

Connector: Outputs #1 & #2: female DVI-I (digital pins).

Signal: Digital Visual Interface (DVI)-TMDS single link.

Resolutions:

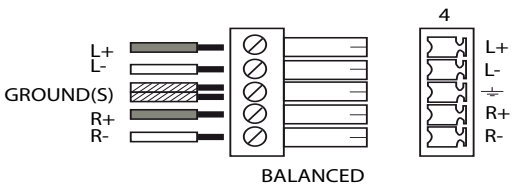
Format	Ratio	Refresh Rate	Reduced Blanking
640 x 480	4 : 3	50Hz 60Hz 72Hz 75Hz	
800 x 600	4 : 3	50Hz 60Hz 72Hz 75Hz	
848 x 480	16 : 9	50Hz 60Hz 72Hz 75Hz	
1024 x 768	4 : 3	50Hz 60Hz 72Hz 75Hz	
1280 x 720	16 : 9	50Hz 60Hz	
1280 x 768	15 : 9	50Hz 60Hz 72Hz 75Hz	
1280 x 800	16 : 10	50Hz 60Hz 72Hz 75Hz	
1280 x 1024	5 : 4	50Hz 60Hz 72Hz 75Hz	
1360 x 768	16 : 9	50Hz 60Hz 72Hz 75Hz	
1366 x 800	15 : 9	50Hz 60Hz 72Hz 75Hz	
1400 x 1050	4 : 3	50Hz 60Hz 72Hz 75Hz	
1440 x 900	16 : 10	50Hz 60Hz 72Hz 75Hz	
1600 x 1200	4 : 3	50Hz 60Hz	
1680 x 1050	16 : 10	50Hz 60Hz	
1920 x 1080	16 : 9	50Hz 60Hz 72Hz 75Hz	YES
1920 x 1080 B	16 : 9	50Hz 60Hz	YES
1920 x 1080 C	16 : 9	50Hz 60Hz	YES
1920 x 1080 HD	16 : 9	50Hz 60Hz	YES
1920 x 1200	16 : 10	50Hz 60Hz	YES
2048 x 1080	19 : 10	50Hz 60Hz	YES

• AUDIO OUTPUT

Connector: Output #1 and #2: 2 Balanced or unbalanced mono/stereo outputs (on 5-pin MCO male connector).

Vo max: Unbalanced = +15dBu (at 300Ω load)
Balanced = +21dBu (at 600Ω load)
Zo = 600Ω balanced
Zo = 300Ω unbalanced
G = 0 dB nominal

Outputs #1 to #2: Balanced & unbalanced connection



The video output generates a SDI signal in which is embedded only one stereo audio stream.

Settings	Availability
Gain	Yes: from -∞ to+18dB
Balanced Audio	Left and Right
Auxiliary Input Mixing	Yes
Adjusting Audio Delay	Yes: from 0 to 80ms (Automaticaly or Manual)

• VIDEO OUT

Connector: 1x BNC-F: SD/HD-SDI (with audio embedded).
3x BNC-F: Y_Cb_Cr.
1x Mini Din 4: S. Video.
1x BNC-F: Composition video PAL/NTSC.

Impedance: 75 ohms.

Formats: 720p @ 50 / 59.94 & 60 Hz.
1035i @ 59.94 & 60 Hz.
1080i @ 50 / 59.94 & 60 Hz.
1080p @ 23.97 / 24 / 25 / 29.97 / 30 / 50 & 60 Hz.

Data rate: 270Mbps serial digital - SMPTE 259M-C.
1.54 Gbps serial digital - SMPTE 292M-A.
2.97 Gbps serial digital - SMPTE 425M-A.

Communication specifications

• COMMUNICATION PORTS

REMOTE RS-232
Connector: DB 9 female.
Protocol: RS-232.
Data Rate: 9600 Bauds, 8 data bits, 1 stop bit, no parity bit, no flow control by default.
DTR & RTS needed for upgrade.

• LAN

Connector: RJ45.
Protocol: TCP (Transmission Control Protocol) or UDP.
(User Datagram Protocol).
Ethernet: Base 10/100.

Environmental specifications

Dimensions: W 480 x D 330 x H 88 mm
19”W x 13”D x 3.50”H
Weight: 5.4 kg / 10.90 lbs
(Compatible with a Standard 19” rack, Height = 2 U).

Cooling air flow from right side to left side.

Max ambient operating temperature: < +40°C (< 104°F).

Operating temperature: 0 to +40°C / +32°F to +104°F.

Storage temperature: -25 to +85°C / -13°F to +185°F.

Operating humidity: 10 to 80% (non condensing).

Input voltage range: 100-240 VAC, 50/60 Hz.

Typical consumption: 90 W.

CE Compliancy, test following:

- EN 55022: 2006 / A1: 2007,
- EN 55024: 1998 / A1: 2001 / A2: 2003,
- EN 61000-3-2: 2006,
- EN 61000-3-3: 1995 / A1: 2001 / A2: 2005.

Safety, test following:

- IEC 60950-1: 2005,
- UL 60950-1: 2007,
- CAN/CSA-C22.2 NO. 60950-1.

Power supply: IEC/EN/UL/CSA 60950-1, internal, autoswitching.

Mechanical (in carton): Vibration: IEC60068-2-64.

Free fall: IEC60068-2-32.

RoHS, WEEE.

Pin outs

- **VGA**

STANDARD VGA

1- Red	6- Red Return	11- ID Bit 0
2- Green	7- Green Return	12- ID Bit 1
3- Blue	8- Blue Return	13- H Sync
4- ID Bit 2	9- No Pin	14- V Sync
5- Test (Gnd)	10- Sync Return	15- ID Bit 3

- **DIGITAL VISUAL INTERFACE DVI**

Pin

1- TMDS Data 2-	7- DDC Data	13- Not used	19- TMDS Data 0 Shield
2- TMDS Data 2+	8- Analog Vertical Sync	14- +5V (Power)	20- Not used
3- TMDS Data 2 Shield	9- TMDS Data 1-	15- Ground for (+5V)	21- Not used
4- Not used	10- TMDS Data 1+	16- Hot Plug Detect.	22- TMDS Clock Shield
5- Not used	11- TMDS Data 1 Shield	17- TMDS Data 0-	23- TMDS Clock +
6- DDC Clock	12- Not used	18- TMDS Data 0+	24- TMDS Clock-

C1- Analog Red Video (or Cr/Pr or C)
C2- Analog Green Video (or Y or Composite Video)
C3- Analog Blue Video (or Cb/Pb)
C4- Analog Horizontal Sync (or Composite Sync)
C5- Analog Common Ground Return

DDC = Display Data Channel
TMDS = Transition Minimized differential signal

- **RS-232 CONNECTOR**

Pin

1- NC	6- NC
2- Transmit data to PC (Tx1)	7- NC
3- Transmit data from PC (Rx1)	8- NC (or +12V. dc)
4- Receive data from display unit (Rx2)	9- Transmit data to display unit (Tx2)
5- Ground	

- **S-VIDEO (Y/C) CONNECTOR - 4-pin Mini Din**

Pin

1- Y Ground
2- C Ground
3- Y Signal
4- C Signal

- **VESA DDC**

Pin

1- Red	7- Green Return	13- H Sync
2- Green	8- Blue Return	14- V Sync
3- Blue	9- DDC+5 Volt supply	15- Data Clock (SCL)
4- ID Bit 2 0	10- Sync Return	
5- Test	11- ID Bit	
6- Red Return	12- Bi-directional data (SDA)	

HDCP compliance

If you want to use HDCP content from your sources, be sure pluging HDCP compliant screens or projectors. If it's not the case, the output image could be disabled.
When displaying HDCP protected sources on non HDCP compliant equipment, the following message will be displayed on the device VFD screen:

"Due to HDCP content, non HDCP screens cannot display protected sources"

Your screen will go to black without displaying the HDCP input image, or partially layer out non HDCP content.

Concerning the DVI inputs, a specific feature allows enable/disable the HDCP receiver for the input chosen.

It can be very useful especially when using a Mac:

Input Menu > DVI# > HDCP detection

The output status can provides you all information about the output in real time.

This feature is particularly needed when HDCP is used with long cable to be sure that the communication is well handled.

Don't forget that HDCP content can be displayed only through Digital link like DVI.

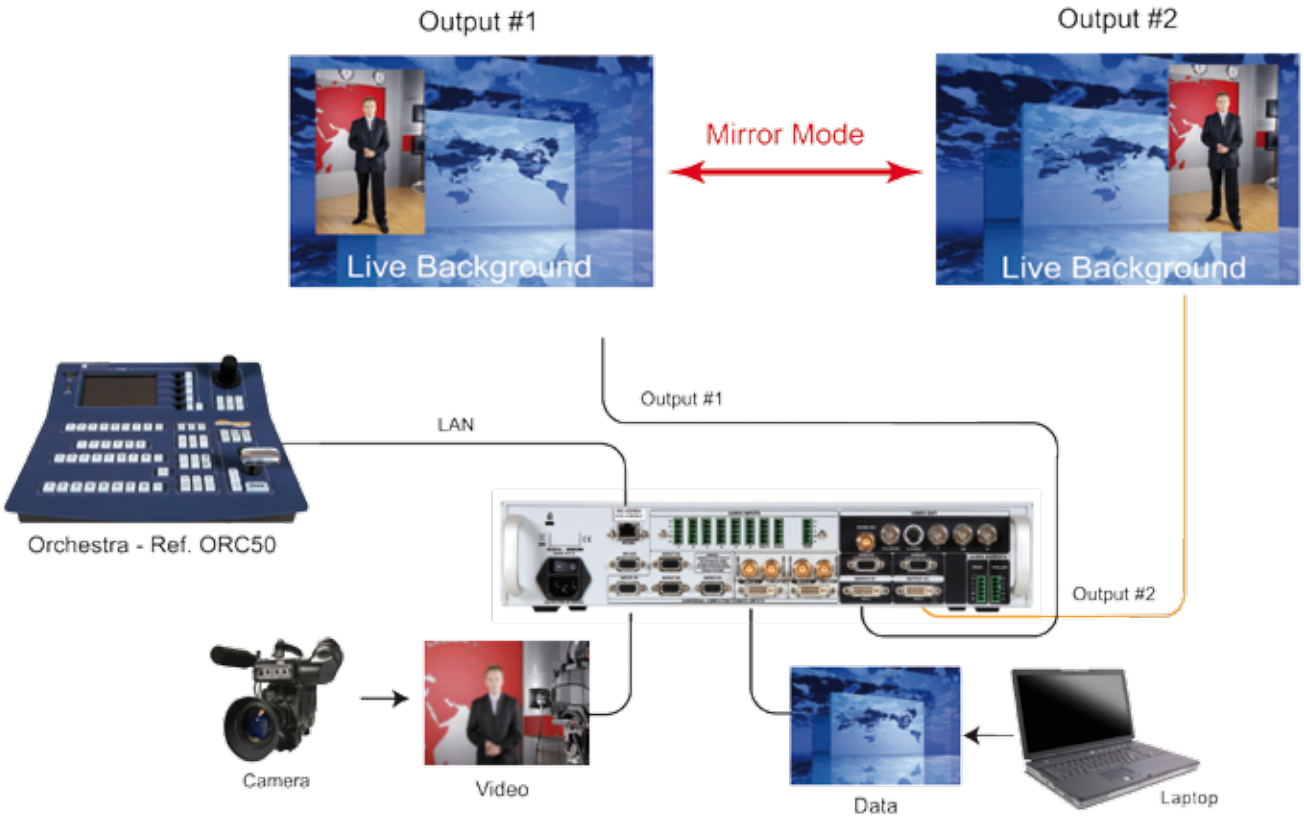
The SDI and the HD15 output don't support the HDCP protection.

NOTE : as part of our policy of continuous improvement, Analog Way reserves the right to make design and specification changes for product improvements without prior notice. The performance specification figures indicated are nominal values of production units. There may be some deviations from these values in individual units.

3-1. CONNECTING THE SMART MATRIX

The **Smart MatriX** can be set up with up to 12 different sources, and will drive up to 2 digital DVI-D sources, 2 SD-SDI sources and 8 analog computer/video sources simultaneously. The versatility of the **Smart MatriX** will allow for almost any event configuration and cater for all your projection needs.

The intuitive rear panel of the **Smart MatriX** will let you set up for the first time quickly and easily. Here is an example of a typical **Smart MatriX** setup.

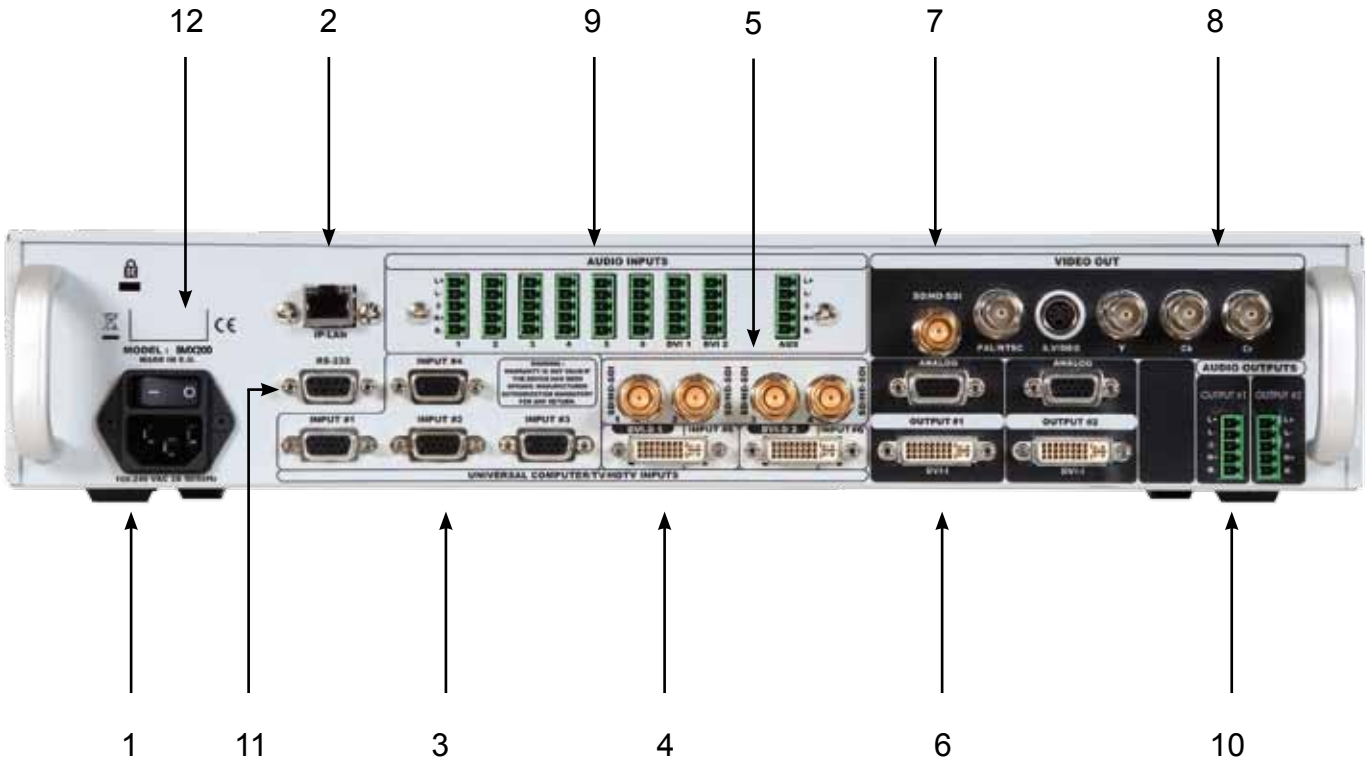


3-2. THE SMART MATRIX REAR PANEL

Outputs #1 and #2

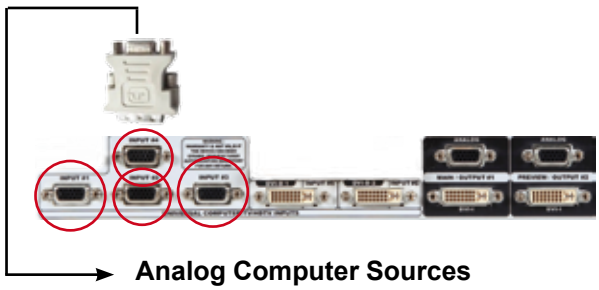
The **Smart MatriX** rear panel is equipped with 12 universal digital and analog inputs. Inputs #1 through #4 (3) are universal analog inputs. Inputs #5 & #6 share a DVI-D signal and a universal analog signal (plug the included Analog Way DVI/HD15 adaptor cable to use DVI-D and analog signals simultaneously).
The outputs (6) will allow for the **Smart MatriX** high resolution digital and analog signals to be viewed on screen and/or on a preview monitor (see also Output Specifications in this chapter).
The extra Video Out card installed on the **Smart MatriX**, can be used for recording, broadcasting or previewing purposes in a wide range of formats for maximum compatibility with industry viewing or recording equipment. Finally, the audio in and output card will let users mix audio with any source, accurately balance or tweak sound sources and outputs.

1 : AC outlet and on/off switch
2 : IP-LAN connector
3 : Universal Computer/TV/HDTV inputs
4 : DVI-D inputs
5 : HD-SDI inputs
6 : Analog and DVI outputs #1 & #2
7 : SD-HD/SDI output
8 : SD/HDTV output
9 : Audio inputs
10 : Audio outputs
11 : RS-232 connector
12 : Serial #



UNIVERSAL COMPUTER & VIDEO INPUTS:

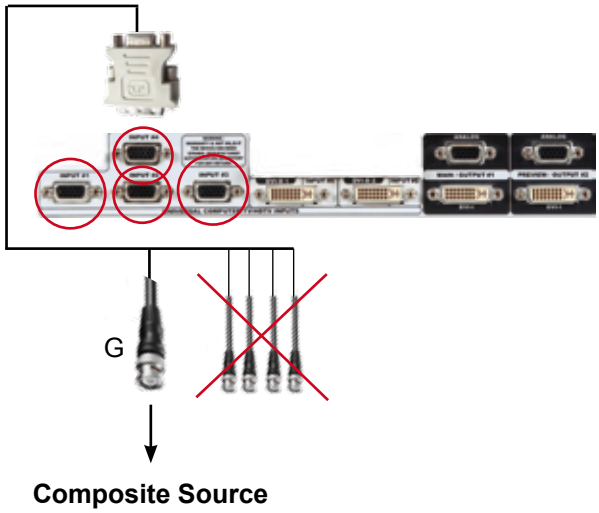
Universal Inputs accept computer sources (RGBHV, RGBS, and RGsB (SOG) signals), standard TV/VIDEO sources (Composite video, S.VIDEO), Component video (YUV, RGBS & RGsB (SOG)), and HDTV sources (480p, 720p & 1080i).
HD15: 1x Universal Analog input on female HD15 connector.



COMPOSITE VIDEO SOURCES:

The Composite Video signal, usually called COMPOSITE or VIDEO, is available on most video equipment (VCR, DVD, CAMCORDER…), but is also the lowest in picture quality. The video standard of this signal can be NTSC, PAL or SECAM. The signal is transmitted on a single coaxial cable, and is connected to the video equipment with an HD15 connector.

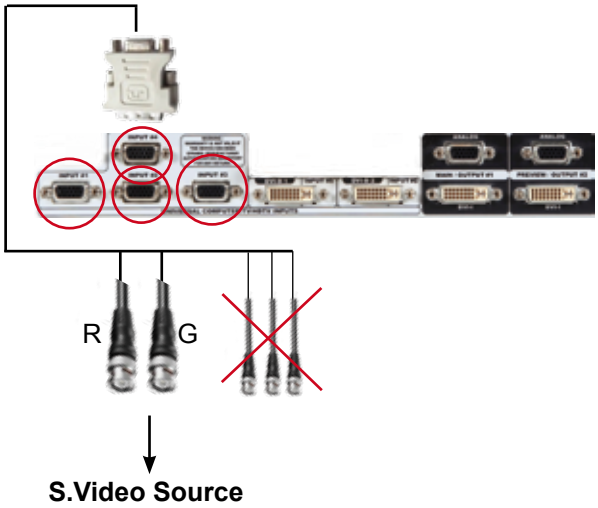
For inputs #1 to #4: connect a 1x BNC from your composite source, to the HD15 input of the device.



S.VIDEO SOURCES:

The S.VIDEO signal, also called Y/C, HI-8™, or S.VHS™, is available on DVD players and high quality VCRs (S.VHS). The S.VIDEO signal in which the Luminance (Y) and Chrominance (C) information are separately transmitted, gives a higher quality picture than the Composite video signal. The S.VIDEO connector is usually a 4-pin Mini-DIN connector also called Oshiden™ connector.

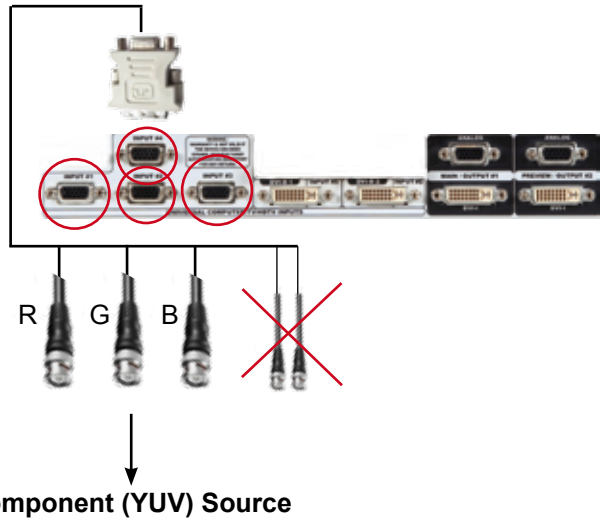
For inputs #1 to #4: connect a 2x BNC from your S.VIDEO, Y (G/Y) & C (R/R-Y), to the HD15 input of the device.



COMPONENT VIDEO SOURCES:

The Component Video signal, also called YUV (Y, Pr, Pb) or BETACAM™ is widely used in broadcasting and is available on high-quality DVD players. The COMPONENT signal is transmitted with 3 coaxial cables, and also has a better quality picture than COMPOSITE and S.VIDEO signals. The COMPONENT connectors are usually RCA (x3), or BNC (x3).

For inputs #1 to #4: connect a HD15 to 3x BNC cable between the HD15 connector of the device and your Component source.



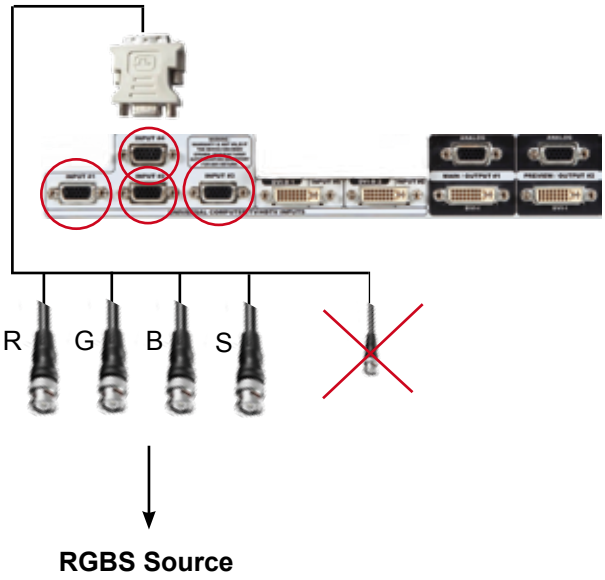
COMPUTER SOURCES:

The device accepts the following computer signals: RGBHV, RGB/S and RGsB on inputs #1 to #6.

RGBS VIDEO SOURCES:

This signal is widely used in broadcasting and is available on European DVD player. The RGB/S signal is transmitted with 4 coaxial cables, and also has a better picture quality than COMPOSITE and S.VIDEO signals. The RGB/S connectors are usually BNC connectors for Broadcasting equipment, and SCART connector for DVD players.

For inputs #1 to #4: connect a HD15 to 4x BNC cable between the HD15 connector of the device and your RGB/S source.



DVI Inputs #1 and #2

DVI & ANALOG SOURCES :

DVI Inputs #1-#2 on the **Smart MatriX** accept up to 2 live sources in Digital format.
DVI-I: 1x digital (DVI) and 1x analog input on female DVI-I universal connector.

For analog sources, please use the breakout cable supplied.

SD/HD-SDI Inputs #1 and #2

SD/HD-SDI SOURCES :

SD/HD-SDI Inputs #1- #2 on the **Smart MatriX** accept up to 2 live sources in Digital formats.
SD/HD-SDI: 1x digital input on female BNC connector.

Outputs #1 and #2

OUTPUTS #1 and #2:

ANALOG: 1x analog output for the main display device on female HD15 connector.

DIGITAL/ANALOG: 1x main output on female DVI-I connector (simultaneous analog and digital).

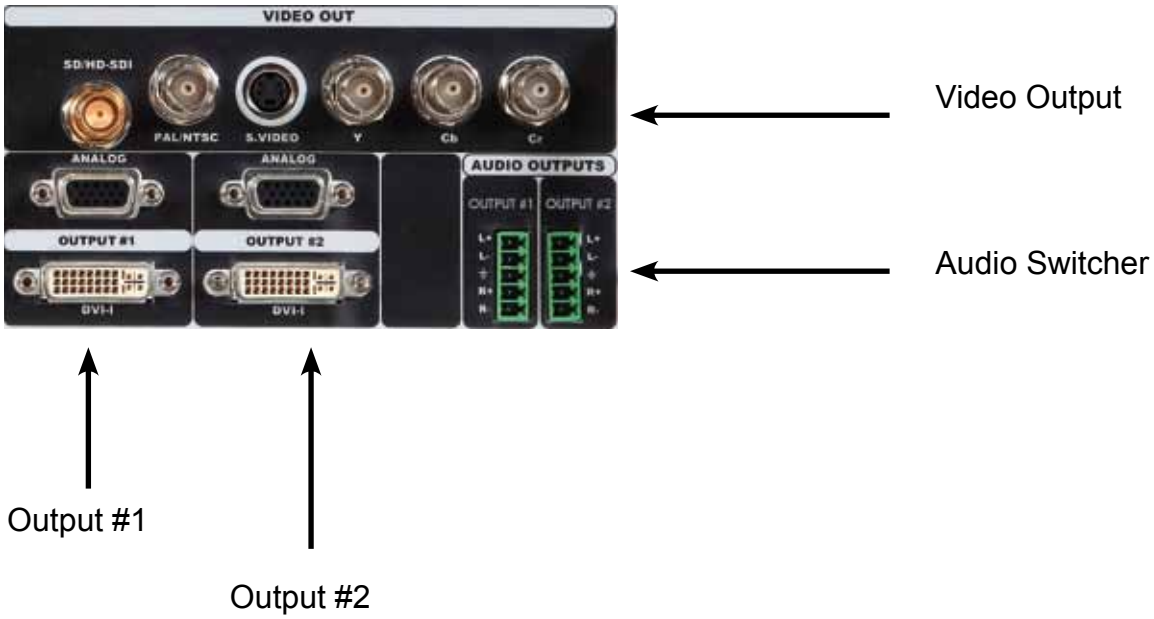
VIDEO OUTPUT:

Video Output card provides SD or HDTV formats in various signals and connectors from Composite Video to HDSDI. This output can be used to record your show by outputting the same content as the Main output in Mixer Mode, or a choice between output 1 or 2 in Matrix Mode (see also **Smart MatriX** Mode, p.5).

As it's a video output (Analog & Digital), the video output can not display HDCP content.

AUDIO SWITCHER:

Audio Stereo Switcher card features 12 inputs and 2 outputs. An additional auxiliary input can be mixed with any other input. Master Volume and individual input level can be adjusted. Each input and output offers balanced or unbalanced connections. It should be noted that the management of the audio output follows the selection of video layers. Two modes are available: Top Follow or Breakaway. In Top Follow Mode, the audio follows the topmost video layer (after having pressed TAKE). In Breakaway Mode, it is the selected audio layer input that is permanently diffused.



4-1. THE SMART MATRIX FRONT PANEL

Overview

The highly intuitive front panel of the **Smart MatriX** was designed by Analog Way engineers to simply and quickly meet all of your event needs. Within minutes, you will be able to enjoy its full potential and easily parameter most of its functions, without having to be an expert audio-visual engineer, leaving room for what is most important to our users: concentrating on their event.

The **Smart MatriX** front panel is comprised of several sections, each carefully labelled and self explanatory, corresponding to all the machine's versatile functions.

1 : Standby button
2 : Menu screen
3 : Menu scroll knob
4 : Control section

On/Off button

The STANDBY button allows users to put the **Smart MatriX** into sleep mode, and startup again. The STANDBY button does not replace the ON/OFF switch at the rear of the unit, and is implemented essentially for ease of use in rackmount situations.
--> Hold for 3 seconds for stand-by mode

Menu screen

The Menu Screen of the **Smart MatriX** is the visual interface to your **Smart MatriX** menu. It gives users a constant indication of available menu options, parameters of any selected object, system information, and everything you need to know to control the device.

Menu scroll knob

The Menu scroll knob allows users to quickly scroll through menu items and increase or decrease any modifiable value in the **Smart MatriX** menu. Simply scroll to the desired menu item, and press the ENTER button to confirm your choice.

The **ENTER** Function is also available by pressing the scroll Knob.

Control section

The EXIT/MENU button and the ENTER button in the Control section of the **Smart MatriX,** allow users to respectively enter and exit the **Smart MatriX** menu, and confirm selected menu items.

4-2. THE SMART MATRIX MENU

Menu navigation

To access the **Smart MatriX** Menu, press the EXIT/MENU button in the control section (4). To highlight items in the menu which will appear on the VFD screen (2), turn the scroll knob (3) left or right to the desired menu item. When you have reached the desired menu item, press the ENTER button in the control section (4) to access that menu function. Pressing the ENTER button when a selection has been made sets the value to that selection in the **Smart MatriX** memory. When all settings have been made, press the EXIT/MENU button to exit sub-menus and return to the main menu.

Simply selecting a menu item will not set it to that value. Be sure to press the ENTER button when parametering the menu items or to push the scroll knob.

Home menu

Pressing the MENU button in the menu section of the **Smart MatriX**, will display and give you access to the following items on the menu VFD screen:

- INPUT: select to configure the 12 individual input types and resolutions.
- OUTPUT 1: in Matrix mode, select to set the output types and resolutions of Output #1.
- OUTPUT 2: in Matrix mode, select to set the output types and resolutions of Output #2.
- VIDEO OUT: select to configure Video output card settings.
- PRESET: select to store and use presets.
- AUDIO: select to access all audio input and output parameters.
- CONTROL: select to access device software information, LAN settings, reset factory settings, amongst other user oriented functions.

4-3. WORKING WITH THE SMART MATRIX

Operating modes

The **Smart MatriX** offers 1 mode to work from: the Native Matrix mode, which turns your **Smart MatriX** into a true 12 x 2 scaled matrix with numerous Live effects and PIPs and logos.

Reseting default values

It is strongly recommended that you reset all of the default values of your **Smart MatriX** unit before setting up your shows and events. To do so, press the EXIT/MENU button and select *Control* in the menu by rotating the corresponding knob. Then press the ENTER button to enter the *Control* sub-menu. Select *Default Values* by rotating the scroll knob, and press the ENTER button to enter your choice to restart your **Smart MatriX** with its factory settings. This operation should take approximately 30 seconds.

Smart MatriX color codes

Analog Way engineers have developed a handy, user friendly way of identifying machine status on the front panel, via the use of color codes on the buttons of the machine. All new Analog Way machines use the same codes, for quick recognition of the status of any device of the range, at any given time.

Solid green:		Function available for modification
Dim red:		Stand-by button

SETTINGS IN NATIVE MATRIX MODE

The advanced features of SMX200 are available by the external remote control as:

- Remote Control Sofware - Ref. RCS (supplied)
- Remote Control Keypad - Ref. RK-300
- Triple Remote Control Keypad - Ref. TRK-800
- Orcherstra - Ref. ORC50
- Axion2 - Ref. ARC200

Source Input selection

Plug your sources thanks to the 6 universal inputs, 2 DVI-I Inputs or 4 SDI inputs.
Don't forget that the 2 DVI-I inputs can be used with DVI-D computer sources (DVI #1 & DVI #2) but also with a DVI-A adaptor for analog sources too (source #5 & #6) shipped with your unit.

Be sure that all connectors are firmly attached using all available locking screws.

Input selection settings

To set up your inputs:

Input menu → Auto settings

You can also do it manually on each input# using the ENTER and the Knob button and set up the inputs type one by one.
You can also check your actual input configuration using the config status:

Input menu → Config Status

You can find several settings for each input (some settings are specific to some signal type):

- **Type:** to set up your input type (Computer, Video etc..)
- **Enabled/disabled:** to enable/disable input#
- **Audio input:** to set up the audio regarding the input
- **H Sync. load:** to change the load of the Sync. signal (Hi-Z, 75 ohms)
- **EDID:** to set up the EDID in terms of resolution and rate
- **Status:** to summarize the input status

Concerning the DVI inputs, a specific feature allows enable/disable the HDCP receiver for the input chosen. It can be very useful especially using a Mac:

Input menu → DVI # → HDCP detection

*** NOTE * : The input status is available at any time in status input menu and can give you information about format rate and HDCP.**

Input Sync. Loss Function

Allows to display a frame or a source in case of sync loss of the selected input. To set up the Sync. Loss function:

Menu → Control → Sync. Loss → Press Input# or Enabled

The selected input must be activated for being visible in case of sync loss.

Source output selection

Once your inputs all have been configured, the output settings of the **Smart MatriX** must be set according to the machines plugged on your **Smart MatriX** main and preview outputs (video projector, preview monitor...).

*** NOTE * :** If you want to use HDCP content from your sources, be sure to attach HDCP compliant screens or projectors. If it's not the case, the output image could be disabled.

Output selection settings

To set up the outputs, go in the **Output #1** or **Output #2** menu and choose first the appropriate format/resolution, and then the appropriate rate for your screens by using the knob button and the Enter button.

Output# → Output Format → Output rate

Use the native resolution of your screens/projectors in order to obtain the best image quality.

In the **Output #2** menu, you can also synchronise all the changes from the **Output #1** to the **Output #2** by checking the case **Sync. w/Out 1**. It allows you to set up both outputs at the same time.

Output 2 → Sync. w/Out 1

Some other settings are available too:

- The Output synch polarity.
- The Gamma: use this feature to set up the output Gamma.
- Flicker Filter (Video Out only): apply a flicker filter on your video output.
- Analog type: set up the type of synchronisation of your Analog output.
- DVI type: set up the type of color place of your Digital output.
- HDCP detection: set up to enable/disable the HDCP detection on the output.
- Background colour: add a background colour in place of the default black one.
- Test pattern: use test pattern on Main or Preview screen to configure your projectors.

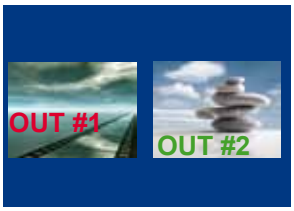
All changes have to be validated by pressing the* **ENTER *button in order to be saved**

*** NOTE *:** The output status can provide you all information about the output in real time. This feature is particularly needed when HDCP is used thanks to the HDCP status.

Video Out

In Matrix Mode, the menu "**Connection Mode**" appears. It allows you to choose recording Output #1 or Output #2.

Display Mode	Presentation	Availability
Output #1		YES
Output #2		YES

Display Mode	Presentation	Availability
Output #1 & #2 side by side **Menu→ Video Out → Connection → Output Titled Horizontally**		Matrix Mode only
Output #1 & #2 Top and Bottom **Menu→ Video Out → Connection → Output Titled Vertically**		Matrix Mode only

Working with Native Matrix Mode

To activate the Native Matrix Mode:

Mode Menu → Native Matrix Mode Menu

You'll find all menus from the Mixer Mode in the Main menu except some specific matrix functions added.

To work with native matrix mode, you have to use the Matrix # buttons first.
For instance, if you want to put the Frame #1 on the Output #1 and the Live source #3 on the Output #2:

Press Matrix #1 button → Press Background Frame button → Press input #1
Press Matrix #2 button → Press background Live button → Press input #3
Press Take to view the result on both screens

Don't forget to press the correct Matrix # button before pressing the Layer selection button, in order to be sure doing the manipulation on the correct output.

Working with Cut, Fade or Transitions

All the transitions (Cut, Fade or Transistions) are available in the native Matrix Mode. Although the Matrix Mode is activated, you will be able to perform powerful transition effects seamlessly. It can depend on your configuration.

The **Smart MatriX** has 4 scalers, to understand how your effect will be performed, you need to know how many scalers are used on your outputs. Don't forget that you always need one free scaler to perform clean transition. Example:

1 background live on each output → 2 scalers used → 2 seamless transitions

1 background line on each output + 1 PIP on output #1 → 3 scalers used → 1 seamless transition available only on output #2 but the output #1 with a background live + 1 PIP will not be seamless transition (ie: Fade through black)

1 background frame on each output + 2 PIP on each outputs → 4 scalers used → NO seamless transition (ie: fade through black)

The background Frame and the Logos are not considerated as live layers and are not counted as using a scaler.

Working with Layers Functions

Once a source attached to a layer, you will have access to some layer settings in the Layer menu or directly by pressing the layer button.

The settings available depend on the layer selected:

- Layer adjusts: set up layer size and position.
- Layer zoom: set up layer zoom size and position.
- Transparency: adjust the Layer transparency.
- Border: choose the border and adjust its properties.
- Opening and Closing effect: adjust the Open/Close effect type and duration.
- Smooth move: enable/disable smooth move.
- Status: get the selected layer status.

All changes have to be validated by pressing the OK button in order to be saved

Press Take to view the result on the main screen.

Settings available:

Settings	Background Live / PIP#1	PIP#2	PIP#3
Position	YES	YES	YES
Size	YES	YES	YES
Zoom	YES	YES	YES
Transparency	YES	YES	YES
Border	YES	YES	YES
Opening effects	YES	YES	YES
Closing effects	YES	YES	YES
Smooth Move	YES	YES	YES
H Flip / V Flip	YES	YES	YES

Even the Logo and Frame buttons can access to their own settings, but a source # has to be affected too.

The Main output can displayed simulteaneously up to 6 layers stacked from bottom to top as follows:

- The Background Frame: One stored frame selected from 8 available,
- The Background Live/PIP#1: One source selected from 12 inputs available,
- The PIP#2: One source selected from 12 inputs available,
- The PIP#3: One source selected from 12 inputs available,
- The Logo#1: One stored Logo selected from 8 available,
- The Logo#2: One stored Logo selected from 8 available.

Opening transitions and closing Live Layers

When transitioning live layers, depending on how many scalers are in use, the **SMX200** TAKE function will act in one of 3 different ways when transitioning the Next Preset (Preview) to the Current Preset (Main):

• Take 1- shot: Case #1

- There are enough scalers for making a transition
- All inputs are locked on to scalers
- There are no constraints for closing **before** the Take
- All opening and closing transitions can be performed simultaneously.

• Take 2- shot: Case #2

- There are enough scalers for making a transition
- All inputs are locked on to scalers before the Take
- There are no constraints for closing **during** the Take
- All the necessary closing transition are performed to free occupied scalers and then the **SMX200** performs all openings.

• Take sequenced- shot: Case #3

- There are not enough scalers for making a transition
- All inputs are not locked on to scalers
- All the necessary closing transitions are performed to free occupied scalers. The **SMX200** locks on to new sources and performs all openings.

Working with PIP

The PIPs are used in the same way as other units. A source has to be selected to activate the PIP settings. Each PIP has its own settings, PIP 1 on output #1 is not linked to PIP 1 on output #2 in terms of settings.

*** NOTE * :** Take a look at the blinking of the Matrix Mode button to always know on which output you are working on.

All PIP settings are available in the Layer menu once the PIP is selected.

PIPs with Transitions & Borders

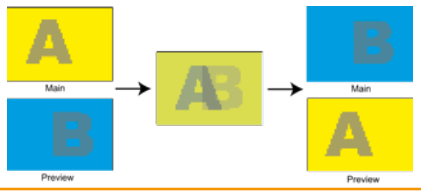
Transitions:

All the settings are available in the **Layer Menu** after pressing the selected PIP.
The transition effects have some shortcut on the front panel too.
To Use it: **Press the selected PIP# → Press the Cut, Fade, User #1 or User #2 button**

The effect will be immediately attached to the selected PIP.
Concerning the User 1 and User 2 button, they have to be set up before in the **Control menu → Prog. Keys**

Fade

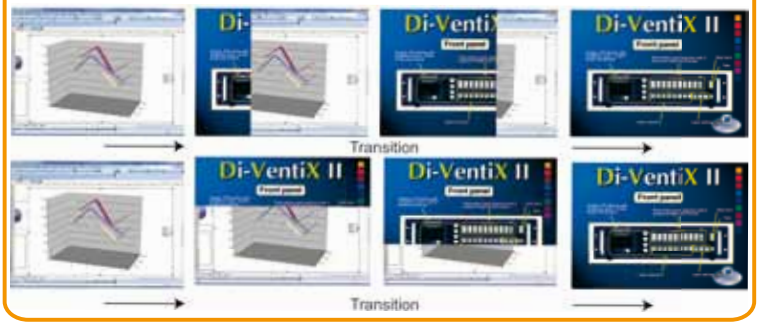
- Adjustable pre-timed fades or manual transition with T-Bar
- Fade between any input, computer or video
- Adjustable cross-fading duration



Wipe

- Numerous wipes can be selected horizontal and vertical, from the center or outside, in circle, Zoom in and out

- Horizontal: from left, center -or- vertical: from up, down, center



Slide

- Sliding of video or computer images during the transition

- Horizontal: from/to left, -or- vertical: from/to up, down

Working with Mirror Modes

The Mirror Matrix Mode is a specific Matrix Mode where the output #2 will be the perfect mirror copy of the output #1. In that way, each settings apply to output #1 will be performed on the output #2 too.

Mode Menu → Native Matrix mode menu → Mirror Mode

To use the Mirror Mode, just perform your setting and operation from the Matrix output #1.
Nevertheless, you can do manipulation on the output #2 at any time.

For a perfect use, set up the output format and rate for the output #2 as for the output #1 using the synchronise button:

Output #2 → Sync w/Out 1

Using the Matrix Mode, several configuration are available, the Simple Mode and the Mirror Mode.

Using the Mirror Mode:

To use the Mirror Mode, simply select the Matrix Mode through the Main menu, then the Mirror Mode can be activated layer by layer thanks to the layers menu.

Select the chosen layer and go in the layer menu, then select the “Layer Copy Mode” menu.
There are several mirror positioning options:

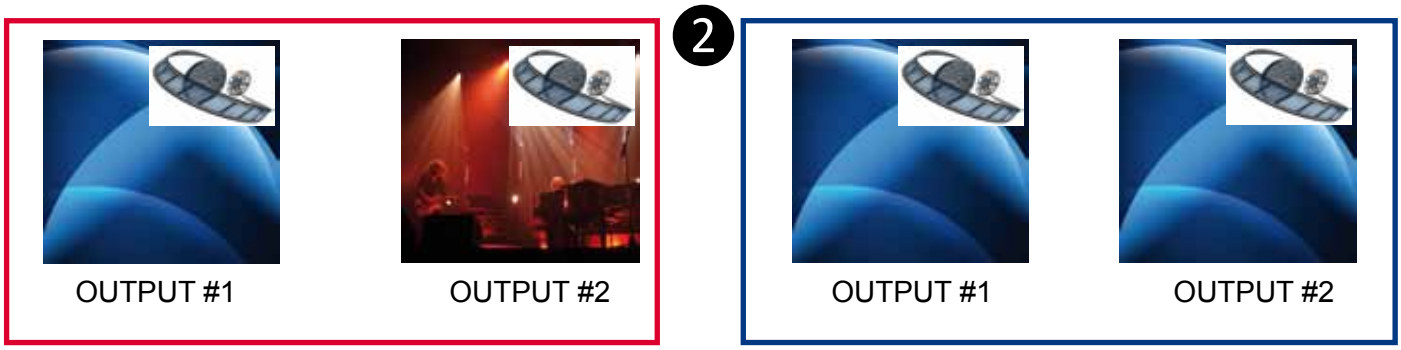
For the ❶, ❷, ❸ & ❹ modes:

Red case: Mirror Mode activated only for the PIP layer

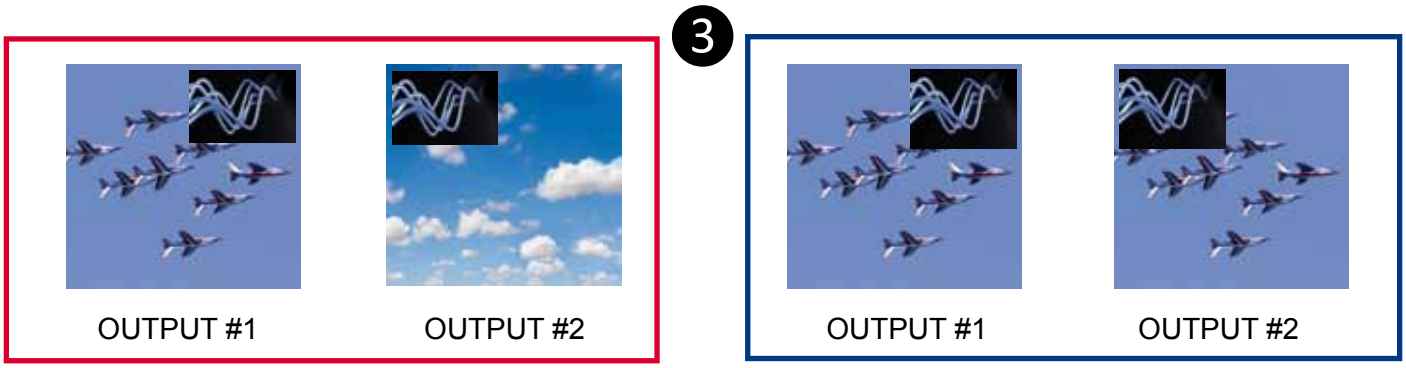
Blue case: Mirror Mode activated for PIP layer and Background live Layer

1- No Copy: this mode is the standard matrix mode, output #1 and #2 are independent...

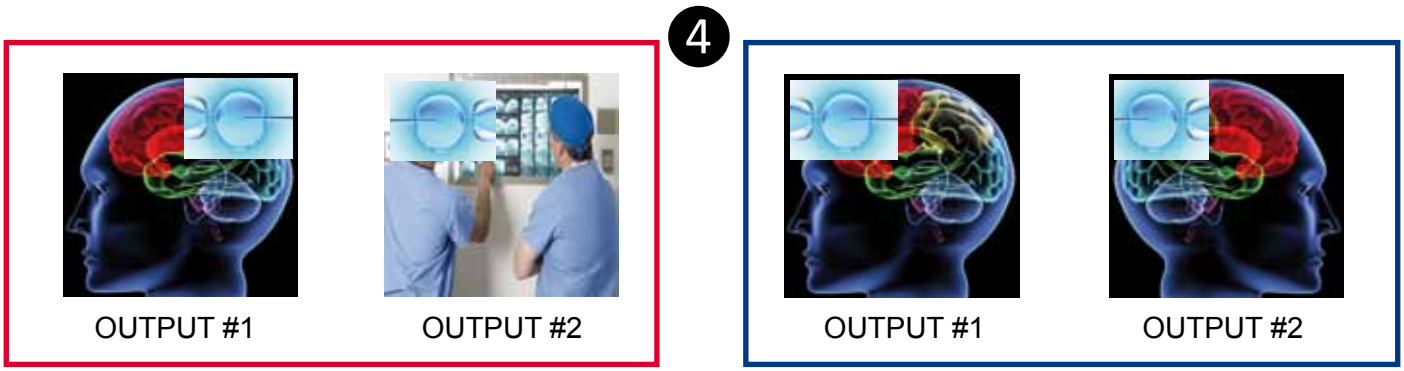
2- Clone mode: The output #1 and #2 will be the same. All changes on the output #1 will be affected to the output #2. Layers will have the same position and size.



3- Copy & H.pos Flip mode: the output #2 will be exactly the same as the output #1 except the fact that the selected layer will have its H position flipped (standard Mirror mode).



4- Copy&H.Flip all modes: the output #2 will be exactly the same as the output #1 except the fact that the selected layer will have its H position and data flipped.



***NOTE*:** Remember that to simplify the use of this feature, you need to manipulate the Output #1. While in mirror mode, the Output #2 will follow the desired steps.

***NOTE*:** Every change on the Output #2 will have an effect only on the Output #2, but remember that if a change occurs on the Output #1 after that, the Output #2 will update automatically to match output #1 (in mode 2/3/4).

Working with Frames/Logos

The Frame/Logo can be memorized from **Output #1 or #2**. To record a Frame/Logo, please refers to the chapter “Capturing still Frame/Logo” in the Mixer Mode.

To use a Frame/Logo, refer to “Working with Frame/Logo”.

As a source, each frame/logo can be used by both outputs, you just have to select the correct matrix# button first.

Capturing still Frames

To capture a frame, display the exact content you want to save on one of your output, at the exact resolution, you can use the freeze button if you want. Then follow this step (choose first the source to capture in the menu Logos/Frames -->capture sources):

Logos/Frames menu → record Frame menu→ Frame #

Select the frame number you want to save and wait until the unit finish saving. Your frame is now saved and you can use it through the background frame button.

The capture of frames can be done only under the following conditions:

- The unit can be in Matrix Mode,
- The capture can be done the Main output or the Preview output,
- The disappearance of frames on the Preview and Main output is normal.

A frame captures the state of the specified output at the main output resolution, and must be recalled using the same output resolution. Resizing or other image manipulation of the captured frame is not possible.

The captured output is outlined by a white border and includes the pixels beneath the white border.

Working with Frames

It is possible to store up to 8 frames in the **SMX200** non volatile memory. Frames are mainly used as backgrounds in a typical show or event setup, and can be recorded from any of the **SMX200’** 12 sources and called back at the press of a single button. To use a frame, be sure first that it is well saved, then:

Press Background Frame button → Press Frame # button

*** NOTE * :** Frames may be used only one at a time and cannot be placed in a layer.

Opening transitions & closing Still Layers (Logos or Frames)

When transitioning still layers, depending on how many scalers are in use, the **SMX200** TAKE function will act in one of 2 different ways when transitioning the Next Preset (Preview) to the Current Preset (Main):

• Take shot: #1

- All still frames make an opening and closing phase.
- All sources of the same layer are completely different between the Current Preset and the Next Preset. The opening and closing effects of the Layer are set to Cut.

• Take shot: #2

- One of the Layer makes a change of source which be not in Cut.
- The opening and closing phases can be done with different effects.
- The still frame appears and disappears of the layer with the following effects: Cut, Fade, Slide or Wipe.

Memorizing Frames

The **SMX200** can memorize up to 8 frames from any resolution *(see Capturing Still Frames)*.

1. In the Input Selection section, press the source button (#1 to #12) of the source you wish to record as a frame. The source button will start blinking. Press the TAKE button to display that source on the main display.
2. Select Logos/Frames in the menu by rotating the scroll knob, then press the ENTER button. Select the output you want to record in capture source menu.
3. Select *Record Frames* in the *Logo/Frames* menu by rotating the scroll knob, then press the ENTER button. A white rectangle will appear on your main display or your Preview, indicating the frame which will be captured. Select an empty frame memory (empty frames are indicated in the sub-menu) to store the frame into. Press the corresponding ENTER button.
4. The **SMX200** will display a progress status bar on the VFD screen. Your frame is stored when the menu reappears on the VFD screen.
5. Press the BACKGROUND FRAME button, select the frame number (#1 to #8) you just recorded, and press the TAKE button. Your background frame will appear on your preview output.

Frame input setup menu

In the frame input setup menu, you have the possibility to save a frame, and the possibility to erase a stored frame to:

Logos/Frames menu → save Frame → Frame #

Logos/Frames menu → Erase → Frame #

Frames as Layer

The background frame is considered as a layer and has some settings available:

Transparency, Opening/Closing effect, Smooth move and Status.

Those settings have to be used as Layer settings.

Press background frame button to have access to the Layer menu settings.

You can change frame or delete frame on the preview screen using the same way the layers do:

Delete: Press background frame button → Press Black
Change: Press background frame button → Press another Frame #

Press Take to view the result on the main screen.

Layer transitions & effects

The **SMX200** offers a wide variety of transitions between the scenes you create for your shows and events. It allows for live recall of 4 user presets, each of which you can edit at any given time.

1. Whether catering for complex event setups, or putting together intricate shows, your **SMX200** will also deliver some of what you could expect from a dedicated mixer, along with its switcher and scaler capabilities.
2. In the Layer Selection section, press the PIP1 button. The button will start blinking. On your Preview screen, PIP1 will appear as a color rectangle. The parameters of the layer will automatically appear on your **SMX200** VFD menu screen.
3. In the *Layer* Menu, make the position, size, border and transparency settings you like, then select *Opening Effect* in the layer options, press the ENTER button and select *Type*. Select *Slide Left - Right* for example, and press the ENTER button to confirm. Navigate to *Duration* in the *Opening Effect* sub-menu, and set the duration of your effect by rotating the SCROLL knob and pressing ENTER.

Repeat the procedure in the *Closing Effect* sub-menu to determine the way your layer will close. Try *Slide From Left - Right* for the closing type with a duration of 1.5 seconds for example.

Mixer functions

In Multi Layer Mixer Mode, the **SMX200** offers a variety of mixer type transitions, including wipes, fades, and cuts. The transitions, transition times and fade/wipe effects can all be setup through the **SMX200** Layer menu.

Capturing Logos

To capture a Logo, display the exact content you want to save on the main screen, you can use the freeze button if you want. Then follow these steps:

Logos/Frames menu → Record Logo menu → Set up your logo →Store menu → logo#

To set up your logo you have several features available:

- Position / Size Adjustment
- Keying type
- Luma / Chroma key
- Cut out color.

Select the logo number you want to save and wait until the unit finish saving. Your logo is now saved and you can use it through the background logo button.

You can save up to 8 logos with the SMX200.

The capture of logos can be done only with the following conditions:

- The unit can be in Matrix Mode
- The capture can be done on the Main output or the Preview output
- The disappearance of logos on the Preview and Main output is normal.

The logos are captured with the same size that the Main output without any form of adjustment.

A logo captures the state of the defined area on the specified output at the Main output resolution, and must be recalled using the same output resolution. Resizing or other image manipulation of the captured logo is not possible.

The capture zone is outlined by a white rectangle and includes the pixels beneath the white border. The non-captured area is reduced in brightness.

Logo capture is limited in the number of pixels being captured. When the logo capture area is resized, extending the horizontal size may reduce the vertical size to compensate.

Logos can also be captured and displayed with transparent areas. By adjusting the keyer in the logo capture menu, the portions of the captured area can be keyed away and captured as transparent.

The Logo “Cut out color” can help display which portions of the image will be captured as tranparent.

*** NOTE *:** The cut out color is only a visual tool to help identify the transparent areas of the logo. These colored regions will be captured and later displayed as transparent area.

*** NOTE*:** Capturing a “Logo” is limited to a small percentage of the output resolution. To capture and display a full screen image, use the still “Frame”.

Capturing an animated Logo

To capture animated Logo, display the exact content you want to save on the main screen, you can use the freeze button. Then follow this step:

Logos/Frames menu → Record Anim menu → Set up your Anim →Store menu → logo#

To set up your anim, you have several features available:

- Position / Size Adjustment
- Keying type
- Luma / Chroma key
- Recording time
- Cut out color

Select the anim logo #8 and wait until the unit finishes saving. Your animation is now saved and you can use it through the background logo button.

Only one Animated logo can be saved in the SMX200.

Memorizing logos in the SMX200

1. In the Input Selection section, press the source button (#1 to #12) of the source you wish to record as a logo. The source button will start blinking.

2. Select the *Logos/Frames* menu by scrolling through the menu with the scroll knob, then pressing the ENTER button.

3. Select *Record Logos* in the *Logos/Frames* menu by rotating the scroll knob, then pressing ENTER. A small white rectangle will appear on your main display, indicating the logo that will be captured.

4. Adjust logo size, position, and fine tune key attributes by rotating the scroll knob and pressing ENTER to memorize logo settings.

5. Select an empty logo memory (empty logos are indicated in the sub-menu) to store the logo into. Press the ENTER button. The **SMX200** will display a progress status bar on the VFD screen.

6. In the Layer Selection section, press the LOGO#1 button, and select logo number (#1 to #8) you wish to use. Your logo will appear on the preview screen above any existing layer on screen.

Logos input setup menu

In the Logos/frames menu, the logos can be deleted in the erase menu:

Logos/Frames menu → Erase menu → Select Logo#

Working with Logos

A simple or animated Logo can be manipulated thanks to the front panel. On the front panel, the logo# are associated to the input# respectively. To affect a logo# to the logo layer:

Press Logo1 Layer button → Press Input#

Logos #1 to #6 are available directly by the input # button on the front panel. For logo #7 and #8, you have to use the Shift button first:

Press Logo1 Layer button → Press Shift button → Press Input#
(for logo #7 or #8 use Shift then Input# button)

You can change logos or delete logos on the preview screen using the same way the layers do:

Delete: Press Logo (#1 or #2) button → Press Black
Change: Press Logo (#1 or #2) button → Press another Input#

Logos as Layer

Logos are under the Layer rules, you will have access to settings directly by pressing the Logo Layer button. You have 2 Layers Logo button available.

You can use the Pos/Size/Zoom adjustment button and the Effect button from the front panel too.

Working with Presets

The four user presets of the **SMX200** can be called back at any stage during your show or event.

1. Press the PRESET button, then press one of the four first Input Selection section buttons to choose which memory (#1 to #4) you wish to use. The preset will be displayed on your preview screen.
2. Once you have selected your preset, simply press the TAKE button to view the result on your main screen.

Creating Presets

The **SMX200** allows the creation of user defined presets very easily. Any setup you have configured on screen, can be stored into one of the 8 available user presets.

1. After having configured Layers, PIP transitions, logos... on your screen (see Working with the **SMX200**, p.31), go to the *Preset* menu by pressing the EXIT/MENU button, and select *Preset* by rotating the scroll knob. Then, press the ENTER button to enter the *Preset* sub-menu. Choose *Preset Copy* by scrolling with the corresponding knob, and press the ENTER button to access the sub-menu.
2. In the sub-menu, choose *Save From Main* or *Save From Preview* to determine which screen you want to memorize the preset from, then set the preset memory (#1 to #8) you wish to use as your “User Preset” (by default, the **SMX200** will choose the next available preset in the **SMX200** memory).
3. By pressing the ENTER button, the **SMX200** will ask you to confirm. Select *Yes*, your screen is memorized as a preset.

Working with Audio

The **SMX200** allows to work with up to 10 stereo inputs, 1 auxiliary input, and 2 embedded SDI audio inputs (via the SDI BNC connectors), all accessible via the *Audio* menu of the **SMX200**, and which can be affected to one or both of the 2 independant symetrical/asymetrical outputs of the device.

Audio configuration

To configure audio settings of the **SMX200**, plug all audio inputs into the device, and navigate to the *Audio* menu.

1. Choose the audio mode, *Break Away* or *Top Layer Follow*, which you wish the audio to work in.

*** NOTE * :** the *Break Away* mode will route the selected audio source, while the *Top Layer Follow* mode will route audio from the topmost active layer of the **SMX200**.

2. Select *Source Settings* from the *Audio* Menu to select the audio source you wish to work with, then set levels and left/right balance for each input.

3. Select *Auxiliary Settings* to determine level and balance of the auxiliary input.

4. In Matrix Mode, all output parameters can be assigned separately to outputs #1 and #2.

5. In Matrix Mode, select *Out1 Prelist* or *Out2 Prelist* from the Audio menu to set audio pre-listen output parameters.

6. Select *Delay Mode*, to determine how the **SMX200** deals with audio delay. Select *Auto Adjust* to let the **SMX200** determine audio output delay. Select *Manual Adjust* to determine audio delay manually.

*** NOTE * :** selecting *Manual Adjust* will give access to audio delay value (in milliseconds) of the main and Prelist audio output Menus.

Special Features

Dynamic Fit (automatically activates the Transparent Background)

- Dynamic & Automatic adjustment of the PIP to fit the source image borders (Black Stripe).

PIP

- Automatic adjustment of the PIP (Ratio) to fit the source image borders during a transition.

Transparent Background

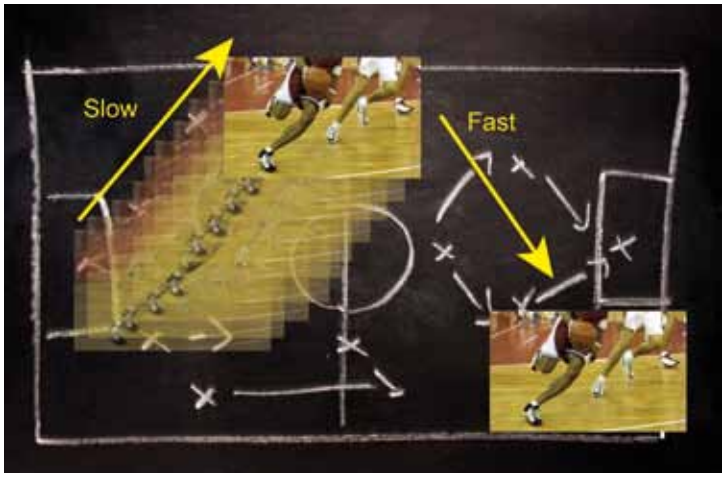
- Transparent Background allows you to remove the black band on the sources in the background live layer in order to display behind a background frame or background color.

Background Frame

Image Live

Smooth Move effect

- Smooth Move (PIP) control the acceleration of the PIP. The time can be different between the opening and closing PIP.



Working with DSK (Chroma / Luma key)

DSK Mode must be used with remote controllers specifically designed to control the SMX200.

- SMX200 allows to use a live source with green or blue (or any color) background and to key it over another live input.
- Background is removed and replaced by another source.
- Title can be keyed (DSK) on Analog or Digital Sources.

To use Keying, first select a source in the desired layer:

Layer button -> source number button

Then in the main menu, select the Keying/Titling menu.

You now have several choices to key your sources. The Luma Key and the Chroma Key based on the Luma pixel values and the Chroma pixel values and for both an additional Titling menu which can be useful to choose the transparency value of your keying.

Keying/Titling menu -> Type menu -> Select your keying type

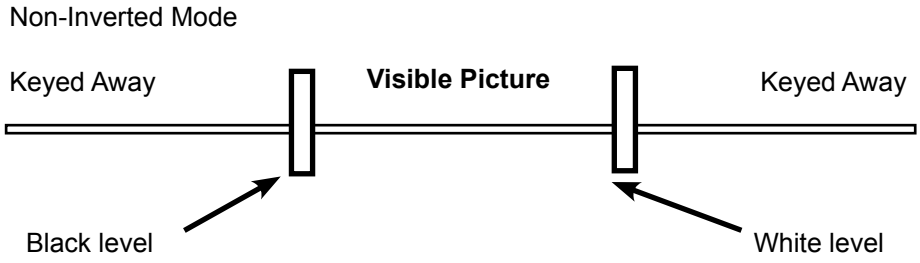
Once your keying mode is selected, the **Smart MatriX** provides you some keying advance setting:

For Luma Key:

Luma Keying is used to key from a particular luminous intensity. It produces a hard edged key based on intensity, which is most suitable for titling effects. You can choose to key things that are extremely dark or extremely bright and keep everything in between, or invert to key only things that are of a medium intensity.

The black and white levels define where to begin the keying. In the range 0 to 255, 0 represents no luminance, or black and 255 represents full luminance, or white.

- ***Level Black:*** As the Black Level is changed from 0 to 255, things that are black are first keyed out, followed by dark grey, then light grey, and so forth, until the entire picture is keyed out at 255.
- ***Level White:*** As the White Level is changed from 255 to 0, things that are white are first keyed out, followed by light grey, then dark grey, and so forth, until the entire picture is keyed out at 0.



For Chroma Key:

Chroma Keying is used to key from a particular color. It produces a soft-edged key which is most suitable for moving images and “weatherman” style applications.

Color grabber:

Select Chroma Key menu -> Select Color grabber menu

Using a crosshair, you can select a particular hue based on what is on screen. Once you have adjusted the crosshairs to a desired position, press set/enter to capture the color value at that instant. You can then adjust the other parameters such as Tolerance to further refine your key.

Manual Setting:

Select Chroma Key menu -> Manual Settings menu

***R,G,B*:**
These controls allow you to manually select a hue, defined by its Red, Green, and Blue values as you can find in Windows (Paint software).

Tolerance:
The Tolerance parameter allows you to expand your key color selection to include colors which are similar to the selected value. A tolerance of 1 will select only the desired hue, whereas a tolerance of 255 will select nearly all hues.

Black Level:
This option permits adjustment of the luminance levels of the keyed hue. The Black Level is the luminance lower bound. Colors in the selected hue range with a luminance brighter than the Black Level but darker than the White Level will be considered part of the key.

White Level:
This option permits adjustment of the luminance levels of the keyed hue. The White Level is the luminance lower bound. Colors in the selected hue range with a luminance brighter than the Black Level but darker than the White Level will be considered part of the key.

Titling alpha:
If you have selected one of the two Titling mode, the titling menu appears.
This option places a transparent black backdrop behind the entire layer to which the key is applied. This effect is useful for using bright titles on bright backgrounds, such as clouds.

Invert keying:
By default, this mode is disabled. When this mode is activated, the key selection will remain on screen, and all other portions of the image will be keyed away. For example, you would see the green screen behind the actor, while the actor would be keyed away.

MATRIX MODE

[OUT 1]

Format : 1920 x 1080

Rate : 50Hz

Lock : internal

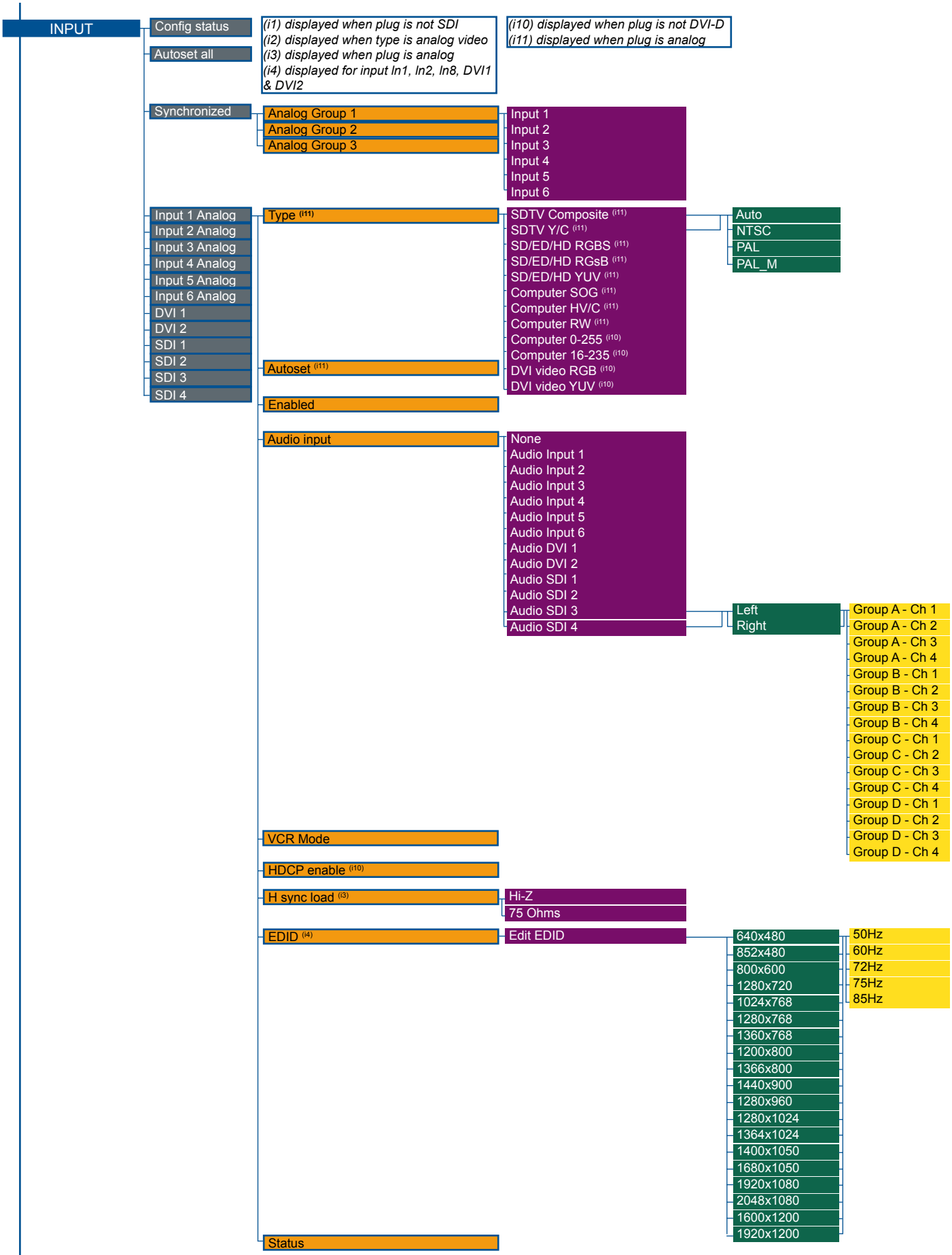
	OUT 1	OUT 2
Logo1	Logo #1	Logo #8
Live	Input 1	SDI 4
Frame	Frame 1	Frame 8

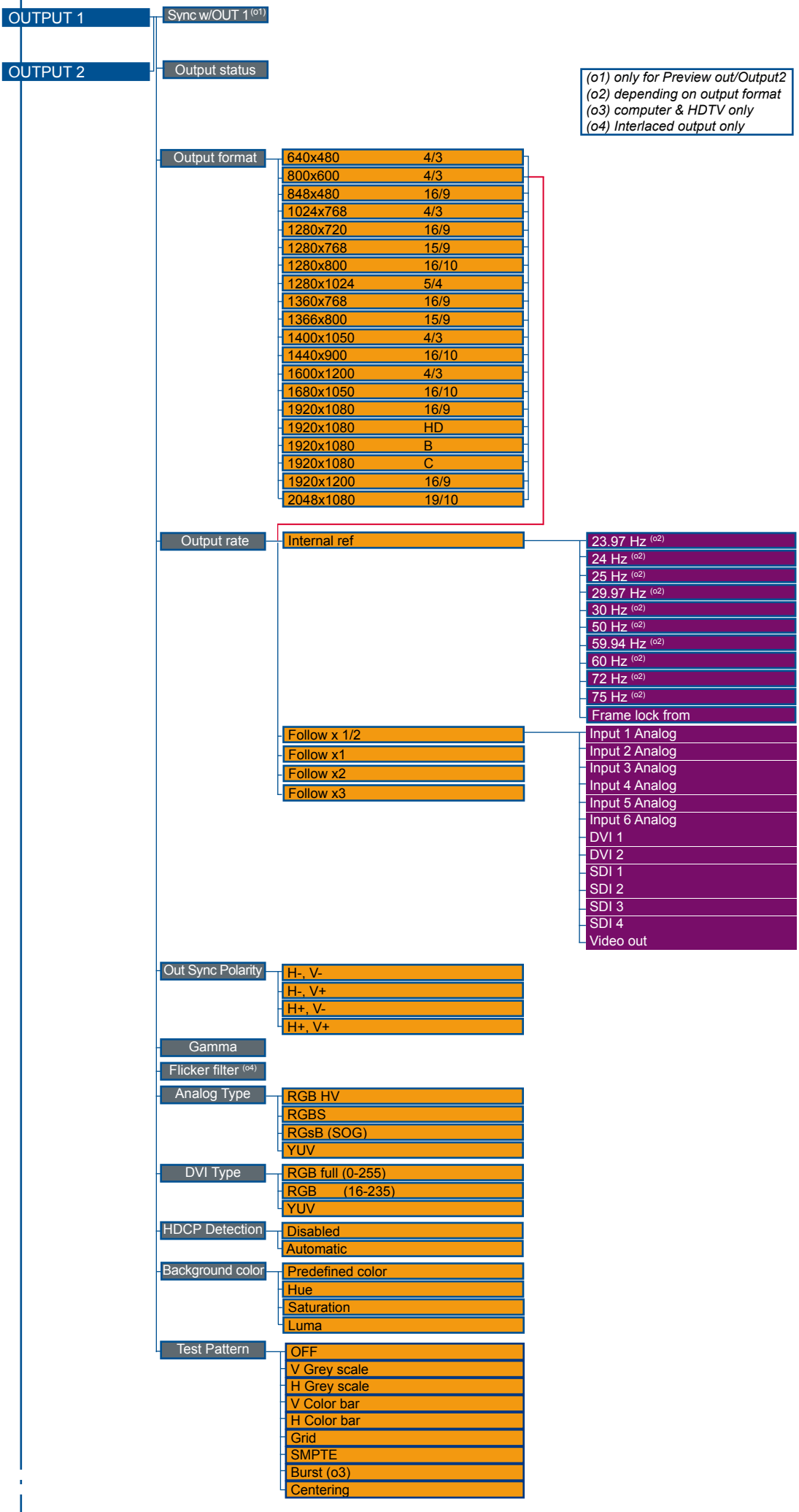
[OUT 2]

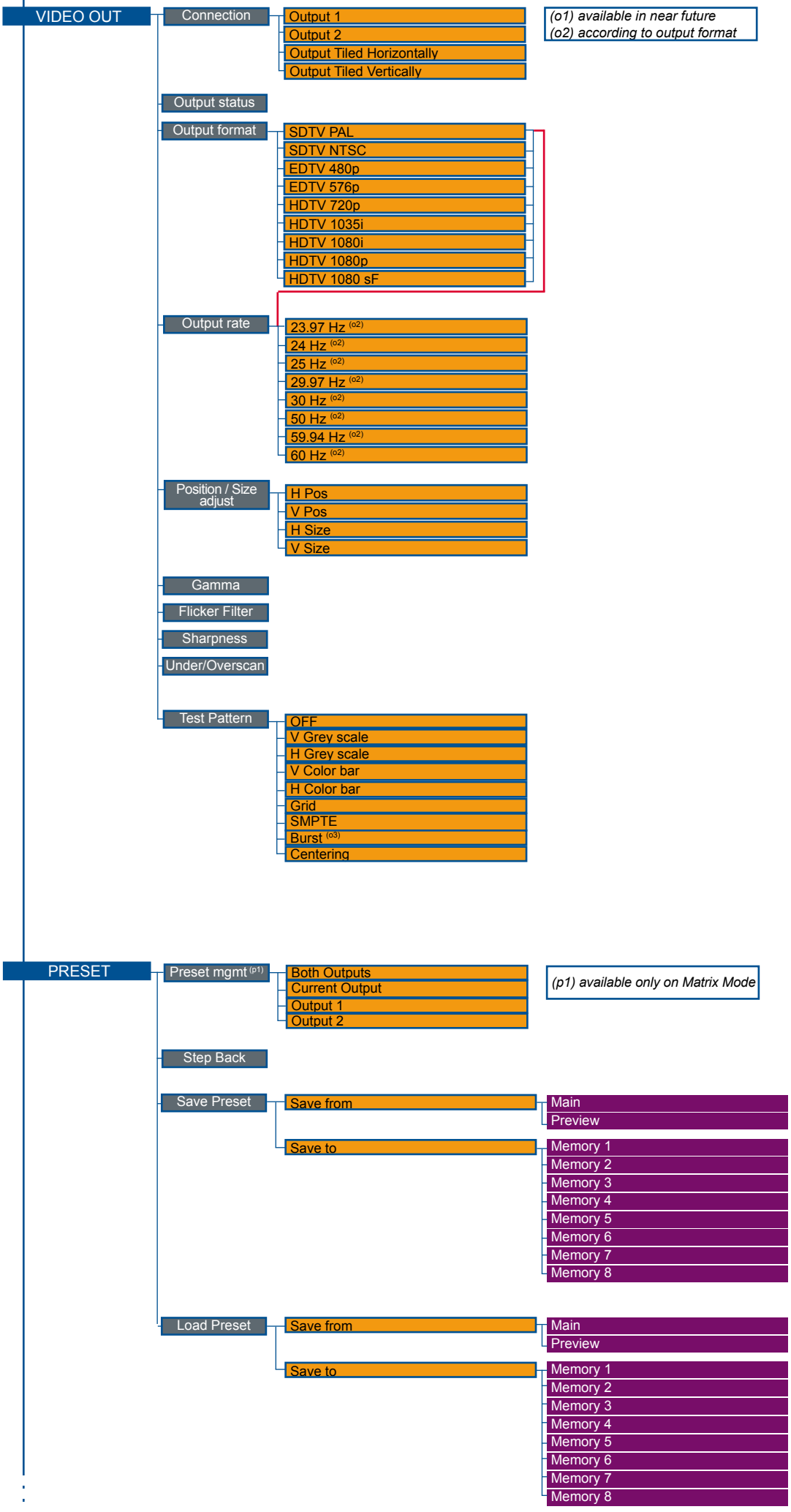
Format : 1920 x 1080

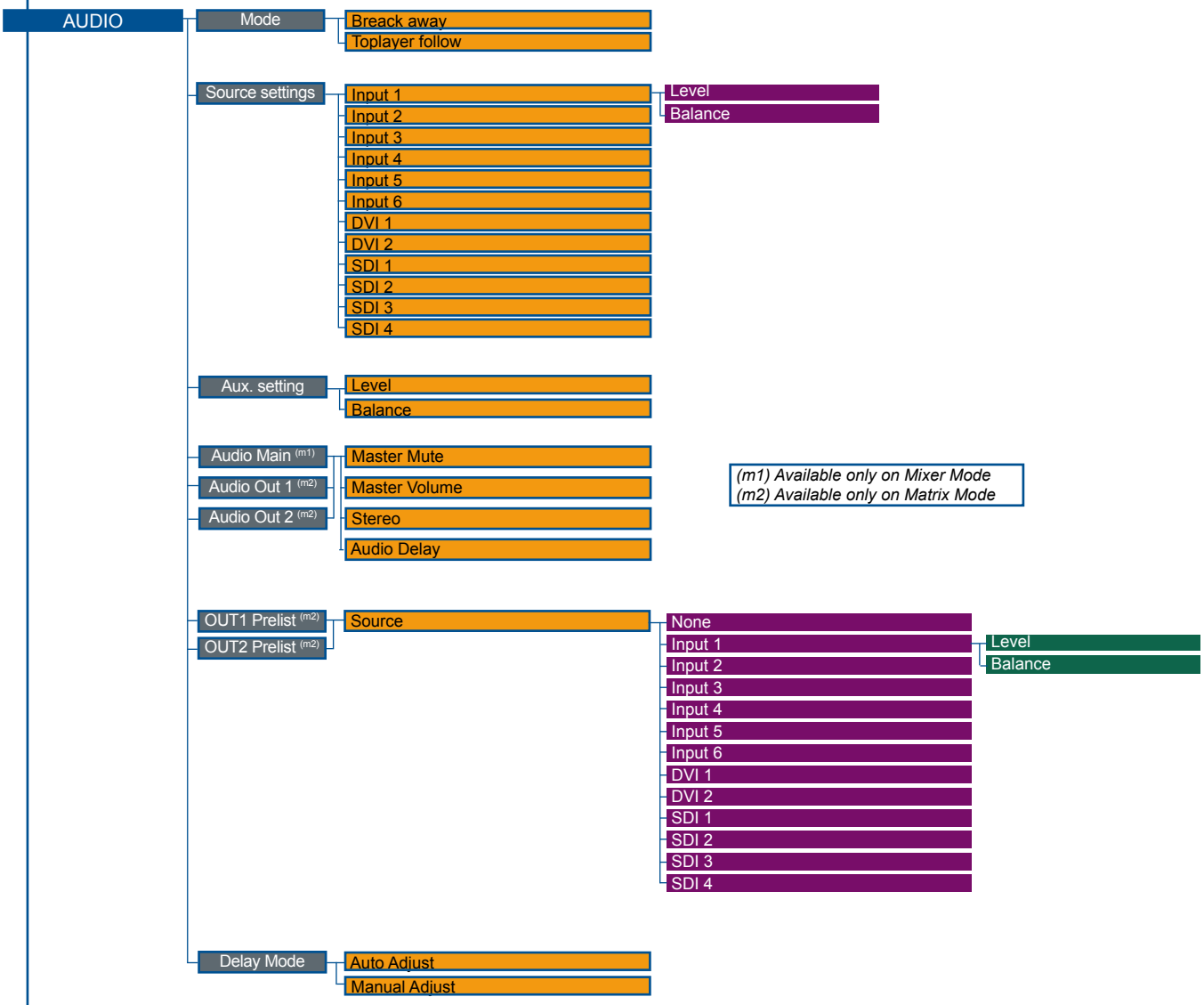
Rate : 50Hz

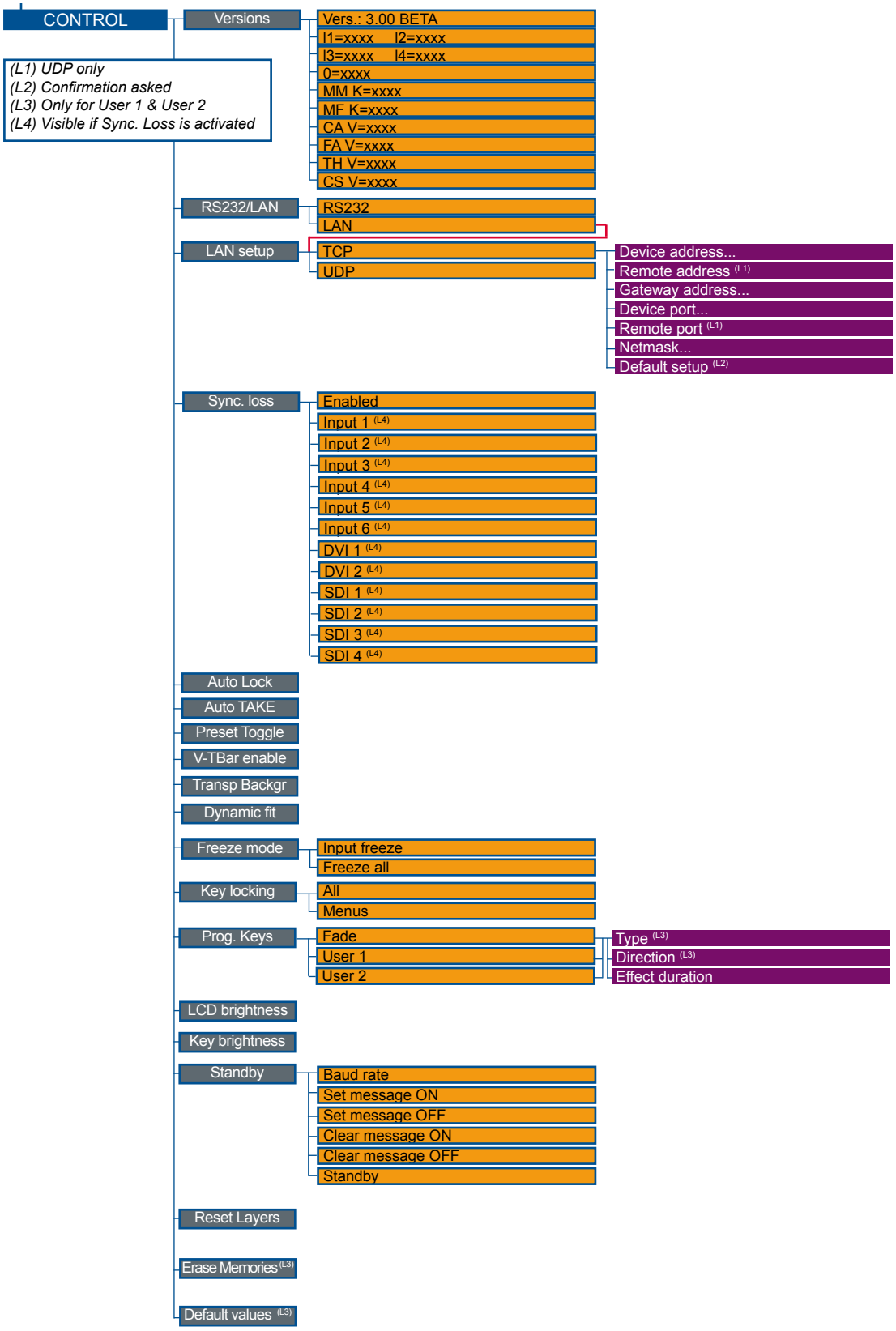
Lock : internal


INPUT
Config status
Autoset all
Synchronized
Input 1 Analog
Input 2 Analog
Input 3 Analog
Input 4 Analog
Input 5 Analog
Input 6 Analog
DVI 1
DVI 2
SDI 1
SDI 2
SDI 3
SDI 4
(i1) displayed when plug is not SDI
(i2) displayed when type is analog video
(i3) displayed when plug is analog
(i4) displayed for input In1, In2, In8, DVI1 & DVI2
(i10) displayed when plug is not DVI-D
(i11) displayed when plug is analog
Analog Group 1
Analog Group 2
Analog Group 3
Input 1
Input 2
Input 3
Input 4
Input 5
Input 6
Type (i11)
Autoset (i11)
Enabled
Audio input
VCR Mode
HDCP enable (i10)
H sync load (i3)
EDID (i4)
Status
SDTV Composite (i11)
SDTV Y/C (i11)
SD/ED/HD RGBS (i11)
SD/ED/HD RGsB (i11)
SD/ED/HD YUV (i11)
Computer SOG (i11)
Computer HV/C (i11)
Computer RW (i11)
Computer 0-255 (i10)
Computer 16-235 (i10)
DVI video RGB (i10)
DVI video YUV (i10)
Auto
NTSC
PAL
PAL_M
None
Audio Input 1
Audio Input 2
Audio Input 3
Audio Input 4
Audio Input 5
Audio Input 6
Audio DVI 1
Audio DVI 2
Audio SDI 1
Audio SDI 2
Audio SDI 3
Audio SDI 4
Left
Right
Group A - Ch 1
Group A - Ch 2
Group A - Ch 3
Group A - Ch 4
Group B - Ch 1
Group B - Ch 2
Group B - Ch 3
Group B - Ch 4
Group C - Ch 1
Group C - Ch 2
Group C - Ch 3
Group C - Ch 4
Group D - Ch 1
Group D - Ch 2
Group D - Ch 3
Group D - Ch 4
Hi-Z
75 Ohms
Edit EDID
640x480
852x480
800x600
1280x720
1024x768
1280x768
1360x768
1200x800
1366x800
1440x900
1280x960
1280x1024
1364x1024
1400x1050
1680x1050
1920x1080
2048x1080
1600x1200
1920x1200
50Hz
60Hz
72Hz
75Hz
85Hz


OUTPUT 1
Sync w/OUT 1 (o1)
OUTPUT 2
Output status
(o1) only for Preview out/Output2
(o2) depending on output format
(o3) computer & HDTV only
(o4) Interlaced output only
Output format
640x480 4/3
800x600 4/3
848x480 16/9
1024x768 4/3
1280x720 16/9
1280x768 15/9
1280x800 16/10
1280x1024 5/4
1360x768 16/9
1366x800 15/9
1400x1050 4/3
1440x900 16/10
1600x1200 4/3
1680x1050 16/10
1920x1080 16/9
1920x1080 HD
1920x1080 B
1920x1080 C
1920x1200 16/9
2048x1080 19/10
Output rate
Internal ref
23.97 Hz (o2)
24 Hz (o2)
25 Hz (o2)
29.97 Hz (o2)
30 Hz (o2)
50 Hz (o2)
59.94 Hz (o2)
60 Hz (o2)
72 Hz (o2)
75 Hz (o2)
Frame lock from
Follow x 1/2
Follow x1
Follow x2
Follow x3
Input 1 Analog
Input 2 Analog
Input 3 Analog
Input 4 Analog
Input 5 Analog
Input 6 Analog
DVI 1
DVI 2
SDI 1
SDI 2
SDI 3
SDI 4
Video out
Out Sync Polarity
H-, V-
H-, V+
H+, V-
H+, V+
Gamma
Flicker filter (o4)
Analog Type
RGB HV
RGBS
RGsB (SOG)
YUV
DVI Type
RGB full (0-255)
RGB (16-235)
YUV
HDCP Detection
Disabled
Automatic
Background color
Predefined color
Hue
Saturation
Luma
Test Pattern
OFF
V Grey scale
H Grey scale
V Color bar
H Color bar
Grid
SMPTE
Burst (o3)
Centering


VIDEO OUT
Connection
Output 1
Output 2
Output Tiled Horizontally
Output Tiled Vertically
(o1) available in near future
(o2) according to output format
Output status
Output format
SDTV PAL
SDTV NTSC
EDTV 480p
EDTV 576p
HDTV 720p
HDTV 1035i
HDTV 1080i
HDTV 1080p
HDTV 1080 sF
Output rate
23.97 Hz (o2)
24 Hz (o2)
25 Hz (o2)
29.97 Hz (o2)
30 Hz (o2)
50 Hz (o2)
59.94 Hz (o2)
60 Hz (o2)
Position / Size adjust
H Pos
V Pos
H Size
V Size
Gamma
Flicker Filter
Sharpness
Under/Overscan
Test Pattern
OFF
V Grey scale
H Grey scale
V Color bar
H Color bar
Grid
SMPTE
Burst (o3)
Centering
PRESET
Preset mgmt (p1)
Both Outputs
Current Output
Output 1
Output 2
(p1) available only on Matrix Mode
Step Back
Save Preset
Save from
Main
Preview
Save to
Memory 1
Memory 2
Memory 3
Memory 4
Memory 5
Memory 6
Memory 7
Memory 8
Load Preset
Save from
Main
Preview
Save to
Memory 1
Memory 2
Memory 3
Memory 4
Memory 5
Memory 6
Memory 7
Memory 8


AUDIO
Mode
Breack away
Toplayer follow
Source settings
Input 1
Level
Balance
Input 2
Input 3
Input 4
Input 5
Input 6
DVI 1
DVI 2
SDI 1
SDI 2
SDI 3
SDI 4
Aux. setting
Level
Balance
Audio Main (m1)
Audio Out 1 (m2)
Audio Out 2 (m2)
Master Mute
Master Volume
Stereo
Audio Delay
(m1) Available only on Mixer Mode
(m2) Available only on Matrix Mode
OUT1 Prelist (m2)
OUT2 Prelist (m2)
Source
None
Input 1
Level
Balance
Input 2
Input 3
Input 4
Input 5
Input 6
DVI 1
DVI 2
SDI 1
SDI 2
SDI 3
SDI 4
Delay Mode
Auto Adjust
Manual Adjust


CONTROL
Versions
Vers.: 3.00 BETA
I1=xxxx I2=xxxx
I3=xxxx I4=xxxx
0=xxxx
MM K=xxxx
MF K=xxxx
CA V=xxxx
FA V=xxxx
TH V=xxxx
CS V=xxxx
(L1) UDP only
(L2) Confirmation asked
(L3) Only for User 1 & User 2
(L4) Visible if Sync. Loss is activated
RS232/LAN
RS232
LAN
LAN setup
TCP
UDP
Device address...
Remote address (L1)
Gateway address...
Device port...
Remote port (L1)
Netmask...
Default setup (L2)
Sync. loss
Enabled
Input 1 (L4)
Input 2 (L4)
Input 3 (L4)
Input 4 (L4)
Input 5 (L4)
Input 6 (L4)
DVI 1 (L4)
DVI 2 (L4)
SDI 1 (L4)
SDI 2 (L4)
SDI 3 (L4)
SDI 4 (L4)
Auto Lock
Auto TAKE
Preset Toggle
V-TBar enable
Transp Backgr
Dynamic fit
Freeze mode
Input freeze
Freeze all
Key locking
All
Menus
Prog. Keys
Fade
User 1
User 2
Type (L3)
Direction (L3)
Effect duration
LCD brightness
Key brightness
Standby
Baud rate
Set message ON
Set message OFF
Clear message ON
Clear message OFF
Standby
Reset Layers
Erase Memories (L3)
Default values (L3)

5-1. THE SMART MATRIX RCS

RCS presentation

The RCS will give you a powerful tool to exploit all the features of your **SMX200** at distance. By LAN, or RS-232, you will be able to do exactly the same manipulation as you could do from the front panel. User-friendly and easy-to-use, you will take the hand quickly with it.

How to use the RCS ?

You have to install the software on a Computer and have a LAN board or RS-232 link to use the RCS. After the installation, launch the program and proceed to the network establishment.

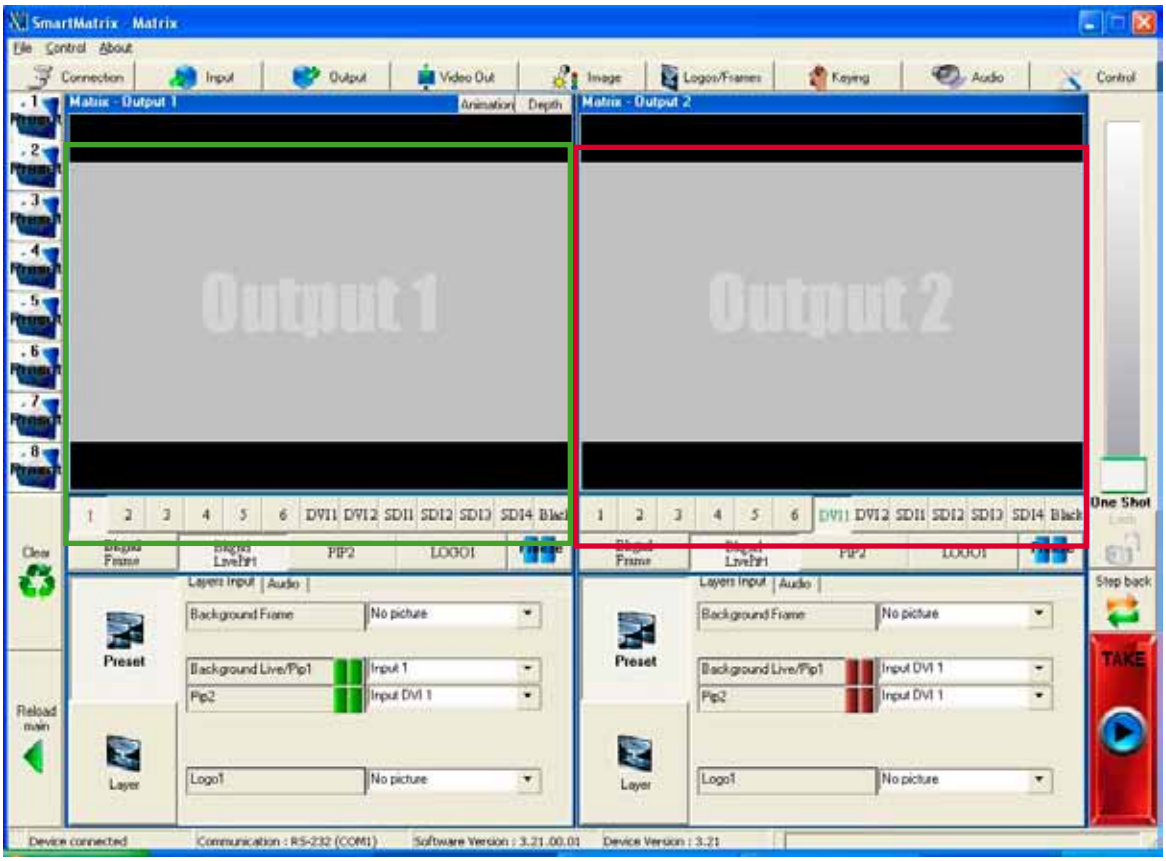
Software installation

1. Connect you on **www.analogway.com**.
2. In the menu, select [Technical Support] menu, then click on [Remote Control Software], select the name of your device and click on [Download].
3. Click on [Open with] or [Register the file], select the *.exe* file.
4. Follow the Windows installation instructions.

Software overview

The RCS software for your **Smart MatriX** is composed of several easily identified sections. The tabs menu allows you to navigate through the equivalent of the **Smart MatriX** front panel menu items (see also “The **Smart MatriX** Menu” p.30). The green window of the RCS represents your Preview window, and can be used to parameter sources, frames, layers and logos directly by clicking on the corresponding button, then navigating through the different available tabs. The red window of the RCS represents your Main window, and can also be used much like the front panel of the **Smart MatriX.**

Create user presets directly in the RCS main window by clicking on one of the four available Preset icons and setting up your preset in the Preview window. Clear unwanted steps with the clear button, reload a fresh copy of your screen via the Reload Main button, make smooth takes directly with your mouse or trackpad with the virtual T-bar. The Take button will allow you to view any change made to your Preview screen on your main screen. **Analog Way** engineers have even implemented a Stepback button to quickly move back to your previous setup in the case of a manipulation error. The status section allows for easy monitoring of the connection status.

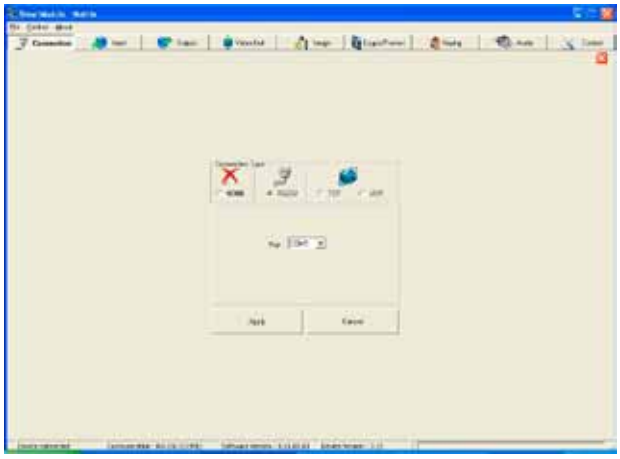


The RCS software for your **Smart MatriX** can be viewed as the software version of the **Smart MatriX** front panel menu section. It allows you to quickly access all of the **Smart MatriX** functions via a single page interface, and easily edit your settings directly from your laptop or PC.

Before starting with the RCS software, you must establish a connection from your laptop to the **Smart MatriX** you wish to run.

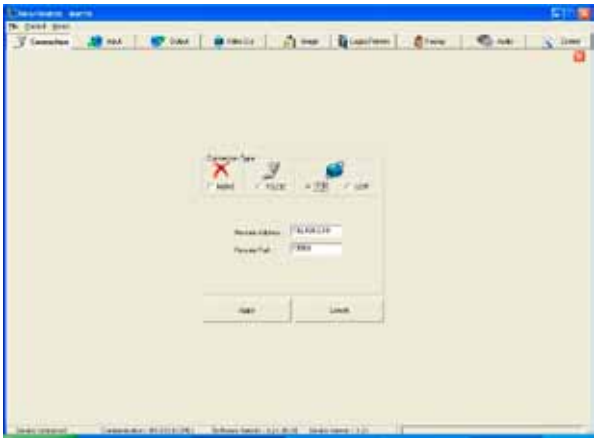
Serial connection

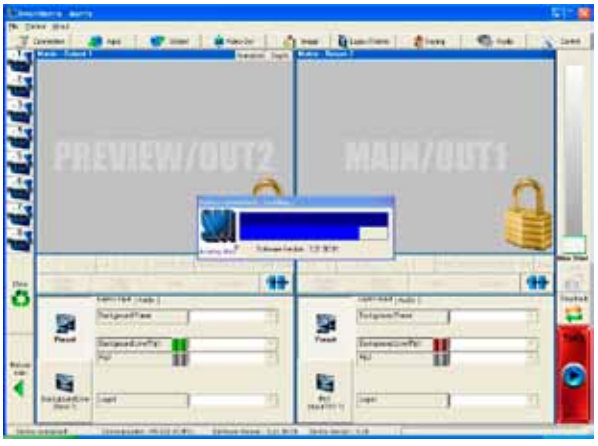
1. Connect a RS-232 cable between the **Smart MatriX** and your PC, then power on your devices.
2. Click on the RCS program file on your PC to run the software.
3. Click on the “Connections” tab and select RS-232 as the connection type. In the drop-down menu, select the COM port number corresponding to the connected device (default is Port 1).
4. Click apply, and wait for devices to synchronize. The RCS will display the following connection message: “Device Connected”.
5. Click on the “Connections” tab to return to the main screen.



Ethernet connection

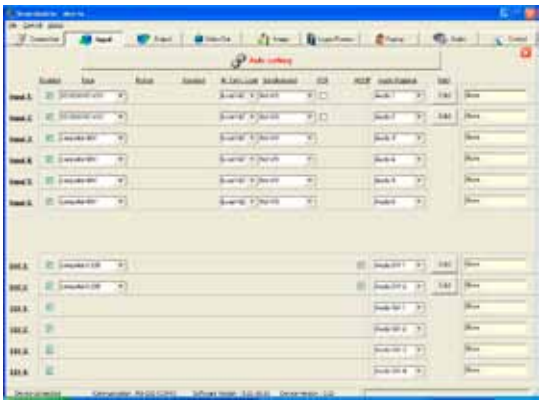
1. Connect a crossed RJ45 cable between the **Smart MatriX** and your PC, then power on your devices. Use straight RJ45 if connecting through a network switcher.
2. Click on the RCS program file on your PC to run the software.
3. Click on the “Connections” tab and select LAN as the connection type.
4. In the “Remote Address” field, enter the IP address of the **Smart MatriX** you wish to control (see also “Working with the **Smart MatriX**”, p.31).
5. In the “Remote Port” field, enter the remote port number of the **Smart MatriX** you wish to control (see also “Working with the **Smart MatriX**”, p. 31).
6. Click Apply, and wait for devices to synchronize. The RCS will display a connection message.
7. Click on the “Connections” tab to return to the main screen.





5-2. WORKING WITH THE RCS

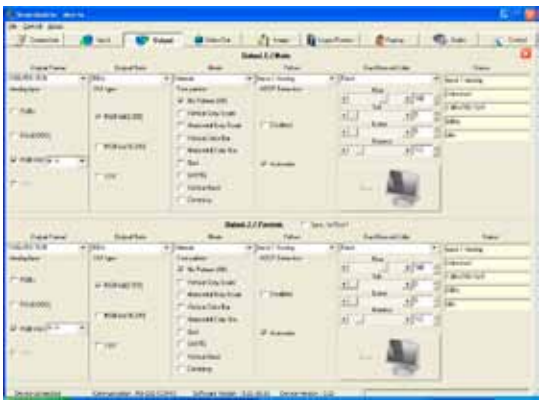
Source input configuration



Once your **Smart MatriX** is wired up to your PC, the first step in properly configuring your machine is to individually select and parameter your inputs.

1. Click on the “Inputs” tab of the RCS.
2. In the Plug column of the “Input” page, select the plug type by clicking the appropriate field.
3. Activate the input in the Enabled column if it is not.
4. In the scroll-down menu of the Type column, select the signal type connected to that plug.
5. Repeat steps 2 to 4 for all sources connected to the rear panel of your **Smart MatriX.**
6. Click on the “Inputs” tab to return to the main screen.

Source output configuration



1. Click on the “Outputs” tab of the RCS.
2. Select the type of plug which is connected to outputs #1 & #2 of your **Smart MatriX** by clicking in the appropriate field in Analog Type or DVI Type for both Main and Preview outputs.
3. Select the appropriate output format and output rate.
4. Click on the “Outputs” tab to return to the main screen.

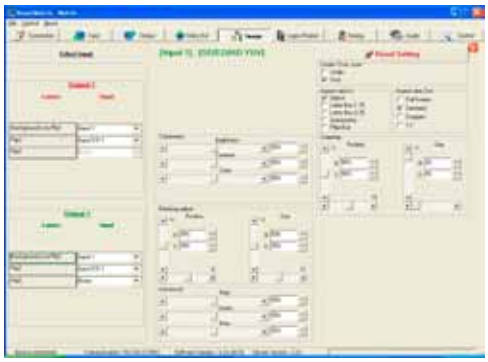
The *Output* menu also allows you to generate test patterns. The test patterns available through the *Output* menu let you quickly and reliably setup your projectors.

*** NOTE * :** Be sure to turn the test pattern off to display your sources again.

Working with PIPs

The **Smart MatriX** allows users to manipulate 2 PIPs (Picture In Picture) which you can move, size, crop or zoom, apply transparency or transitions to.

PIP configuration



1. Click on the *Image* tab of the RCS interface. The empty *Image* screen will appear on screen.

2. By clicking on the drop-down menu in the Preview section, situated next to the layer you wish to use as a PIP, you will access the image parameters of the PIP source you select (#1 to #12).

3. Set the desired PIP attributes (size, position, zoom, border, transparency...).

4. Click on the *Image* tab to return to the main screen.

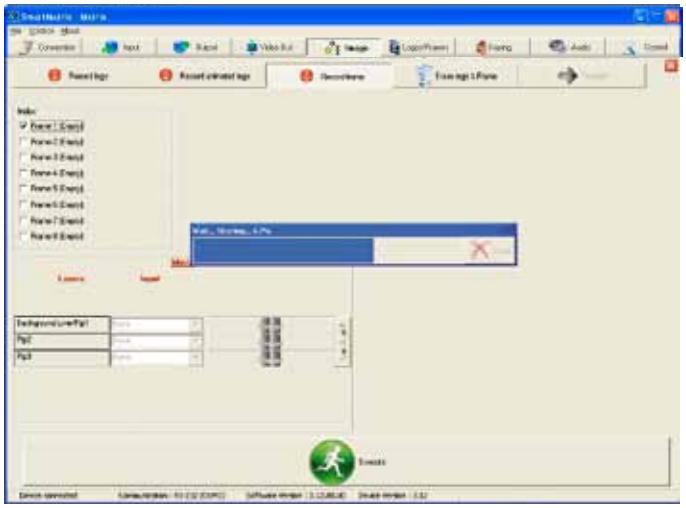
Working with Frames

It is possible to store up to 8 frames in the **Smart MatriX** non volatile memory. Frames are mainly used as backgrounds in a typical show or event setup, and can be recorded from any of the 8 **Smart MatriX** sources and called back at the click of a single button.

*** NOTE * :** To memorize a frame, select an input, and take it to the Main screen. Once the frame is displayed on your Main output, it is then possible to store it to the **Smart MatriX** non volatile memory.

*** NOTE * :** Frames may be used only one at a time. A frame may not be used as a Live Background.

Memorizing Frames



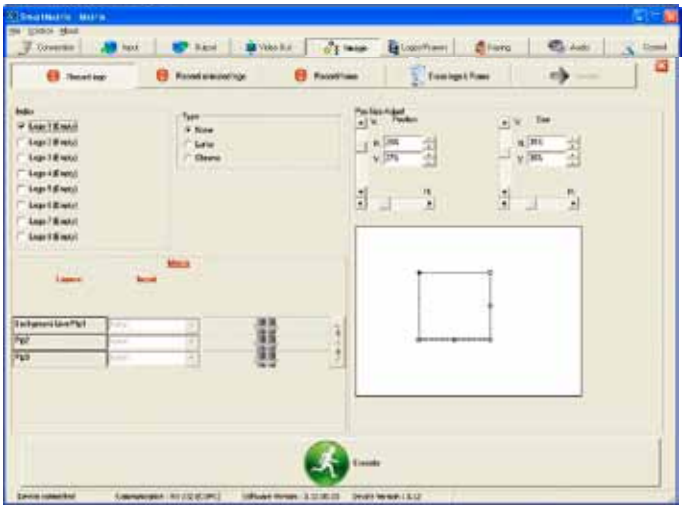
1. In the Input Selection section, click on the source button (#1 to #12) of the source you wish to record as a frame.
2. Click on the *Logos/Frames* tab of the RCS interface. Then click on the *Record Frame* button.
3. Click on the field next to the first free Frame to select it.
4. Click on the *Execute* button.

Working with Logos

It is possible to store up to 8 logos in the **Smart MatriX** non volatile memory. Logos work in much the same way as frames, and can be recorded from any of the **Smart MatriX'** 12 sources.

Logos have more attributes than frames. They can be sized, positionned, but also keyed via color cutout selection or Luma Key.

Memorizing Logos



1. In the Input Selection section, click on the source button (#1 to #12) of the source you wish to record as a logo.
2. In the *Logos/Frames* tab, click *Record Logo*, then select an empty logo memory slot (#1 to #8) to record your logo into.
3. Adjust position, size and keying attributes for your logo.
4. Click on *Execute* to record your logo into the selected memory slot. The **Smart MatriX** RCS will display a progress bar while recording the logo.
5. In the Input Selection section, click the LOGO1 button, and select logo number (#1 to# 8) you wish to use. Your logo will appear on the preview screen above any existing layer on screen.
6. Click on the TAKE button. Your logo will appear on the main display.

Layer transitions & effects

The **Smart MatriX** offers a wide variety of transitions between the scenes you create for your shows and events. It allows for live recall of 4 user presets, each of which you can edit at any given time.

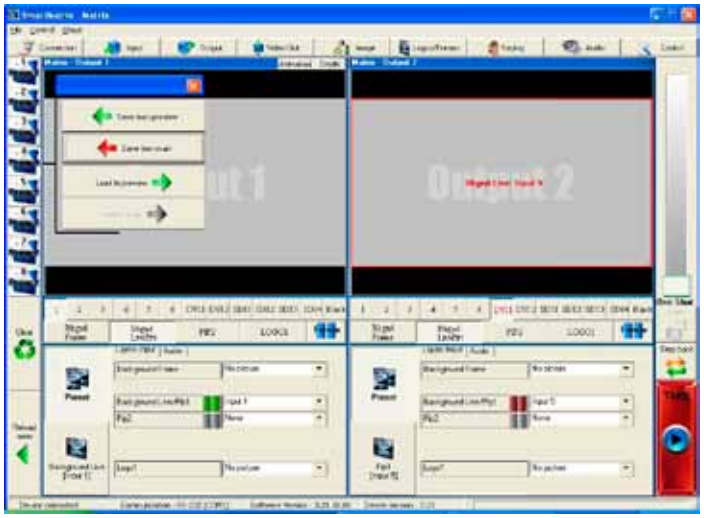
1. In the Layer Selection section, click on the PIP1 button. On your Preview screen, PIP1 will appear as a color rectangle. The parameters of the layer will automatically appear in the RCS Preview section.

2. At the bottom of the Preview section, click on the *Transition* tab, then select the transition type from the left dropdown menu, and the effect behaviour from the right dropdown menu.

3. Determine effect duration by sliding the duration bar left (shorter) or right (longer), or by manually setting the value in the duration value box.

4. Repeat the procedure in the *Closing Effect* tab to determine the way your layer will close.

Creating Presets



The **Smart MatriX** allows the creation of user defined presets very easily. Any setup you have configured on screen, can be stored into one of the 4 available user presets.

1. After having configured layers, PIP transitions, logos... on your screen (see “Working with the RCS” chapter, p. 59), click on one of the four available *Preset* buttons.

2. In the dropdown menu, choose *Save From Main* or *Save From Preview* to determine which screen you want to memorize the preset from.

3. By clicking one of the two options, the RCS will automatically load and preview the selected Preset.

4. Click on the Take button to view your preset on the Main screen.

Working with Presets

The four **Smart MatriX** user presets can be called back at any stage during your show or event.

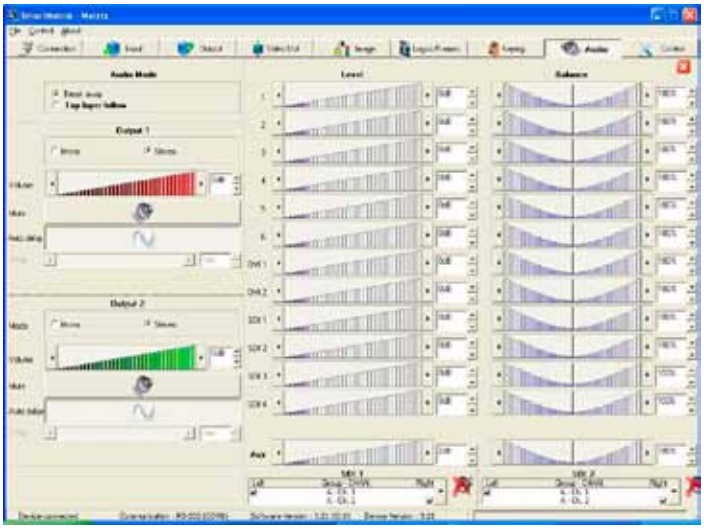
1. Click on one of the four available *Preset* buttons to choose which memory you wish to use. Select *Load to Preview* from the dropdown menu, your preset will appear on the Preview screen.

2. Once you have selected your preset, simply click the *Take* button to view the result on your Main screen.

Working with Audio

The **Smart MatriX** allows to work with up to 10 stereo inputs, 1 auxiliary input, and 2 embedded SDI audio inputs (via the SDI BNC connectors), all accessible via the *Audio* menu of the **Smart MatriX**, and which can be affected to one or both of the 2 independent symetrical/asymetrical outputs of the device.

Audio configuration



To configure audio settings of the **Smart MatriX**, plug all audio inputs into the device, and click on the *Audio* tab of the RCS home page.

1. Set the Main audio output level and delay (accessible only if Delay Mode is set to Manual Adjust), or click on the Mute button to mute Main audio output.

2. Repeat step 2 for the Prelist audio output.

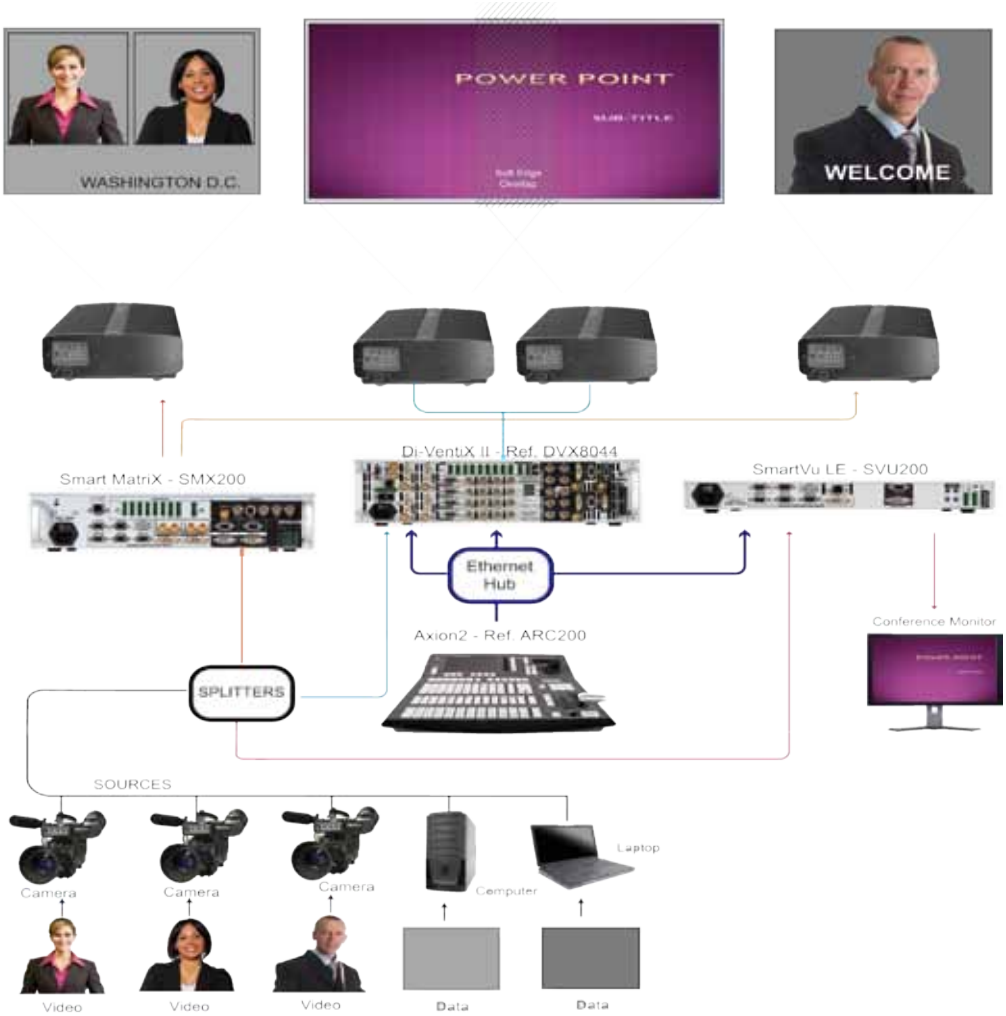
3. Individual source settings (level and balance) for each audio input can be configured in the right hand section of the *Audio* tab.

6-1. Axion2

Analog Way engineers have designed several remote controllers specifically made for easy control of the **Di-VentiX II, Eikos, Eikos LE, OPS300, OPS200, Pulse, Pulse LE, SmartVu and SmartVu LE, Smart MatriX, Smart MatriX LE, Smart Edge and Smart Quad**.

Axion2: The Axion2 is an ergonomic and reliable remote controller for rental & staging/multi-venues at an optimal price/performance ratio. It controls simultaneously up to 6 screens in a single or multiple display configuration.

NOTE: for further information concerning our optional remote controllers, please connect to our website on:
www.analogway.com

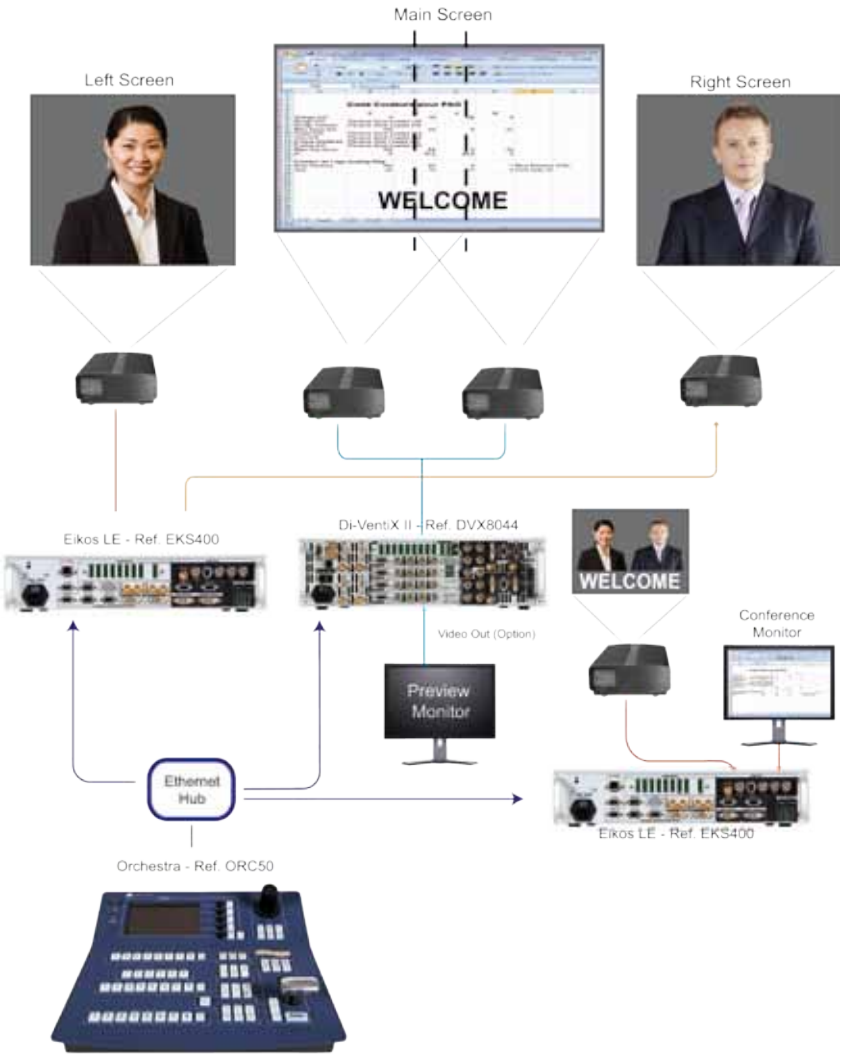


6-2. ORCHESTRA

Analog Way engineers have designed several remote controllers specifically made for easy control of the **Di-VentiX II, Eikos, Eikos LE, OPS300, OPS200, Pulse, Pulse LE, Smart Vu and SmartVu LE, Smart MatriX, Smart MatriX LE, Smart Edge and Smart Quad**.

Orchestra: The Orchestra is an ergonomic and reliable remote controller for rental & staging/multi-venues at an optimal price/performance ratio. It controls simultaneously up to 6 screens in a single or multiple display configuration.

NOTE: for further information concerning our optional remote controllers, please connect to our website on:
www.analogway.com



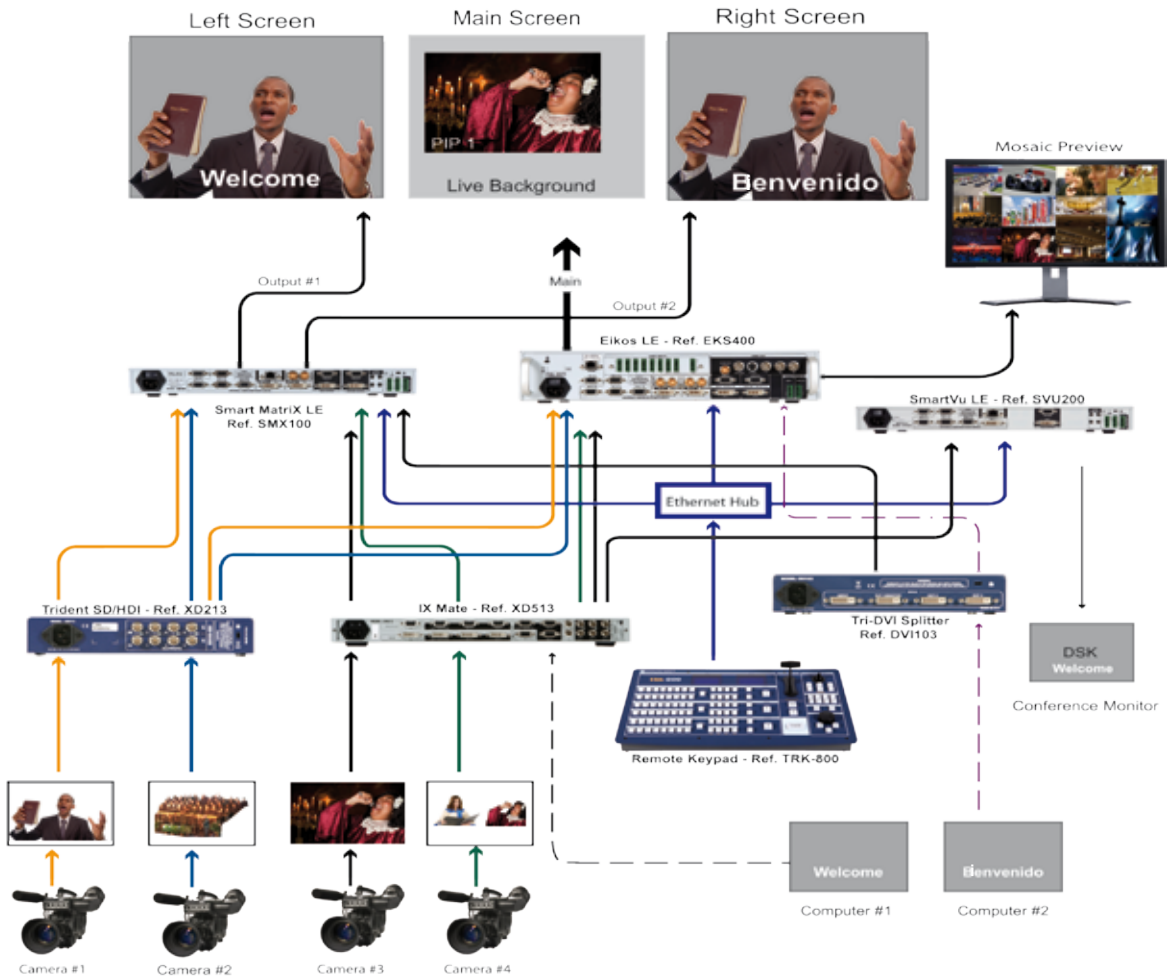
6-3. TRK-800

Analog Way engineers have designed several remote controllers specifically made for easy to control the **Eikos, Eikos LE, OPS300, OPS200, Pulse, Pulse LE, SmartVu and SmartVu LE, Smart MatriX, Smart MatriX LE, Smart Edge and Smart Quad**.

TRK-800: Triple Remote Keypad designed to control up to 3 units.

> Powerful High End Remote Controller
> Controls up to 3 switchers
> Mini Joystick for easy element control
> Ethernet LAN RJ45 connector for easy connection
> Double Large VFD display offering high contrast menu and status

NOTE: for further information concerning our optional remote controllers, please connect to our website on:
www.analogway.com



6-4. RK-300

Analog Way engineers have designed several remote controllers specifically made for easy control of the **Eikos, Eikos LE, OPS300, OPS200, Pulse, Pulse LE, Smart Vu and Smart Vu LE, Smart MatriX, Smart MatriX LE, Smart Edge and Smart Quad**.

RK-300: Remote Control Keypad designed to control Analog Way's new Seamless Switchers

> Very User-friendly Remote Control Keypad
> Controls different Switchers
> Mini Joystick for easy element control
> Ethernet LAN RJ45 connector for easy connection
> Large VFD display offering high contrast menu

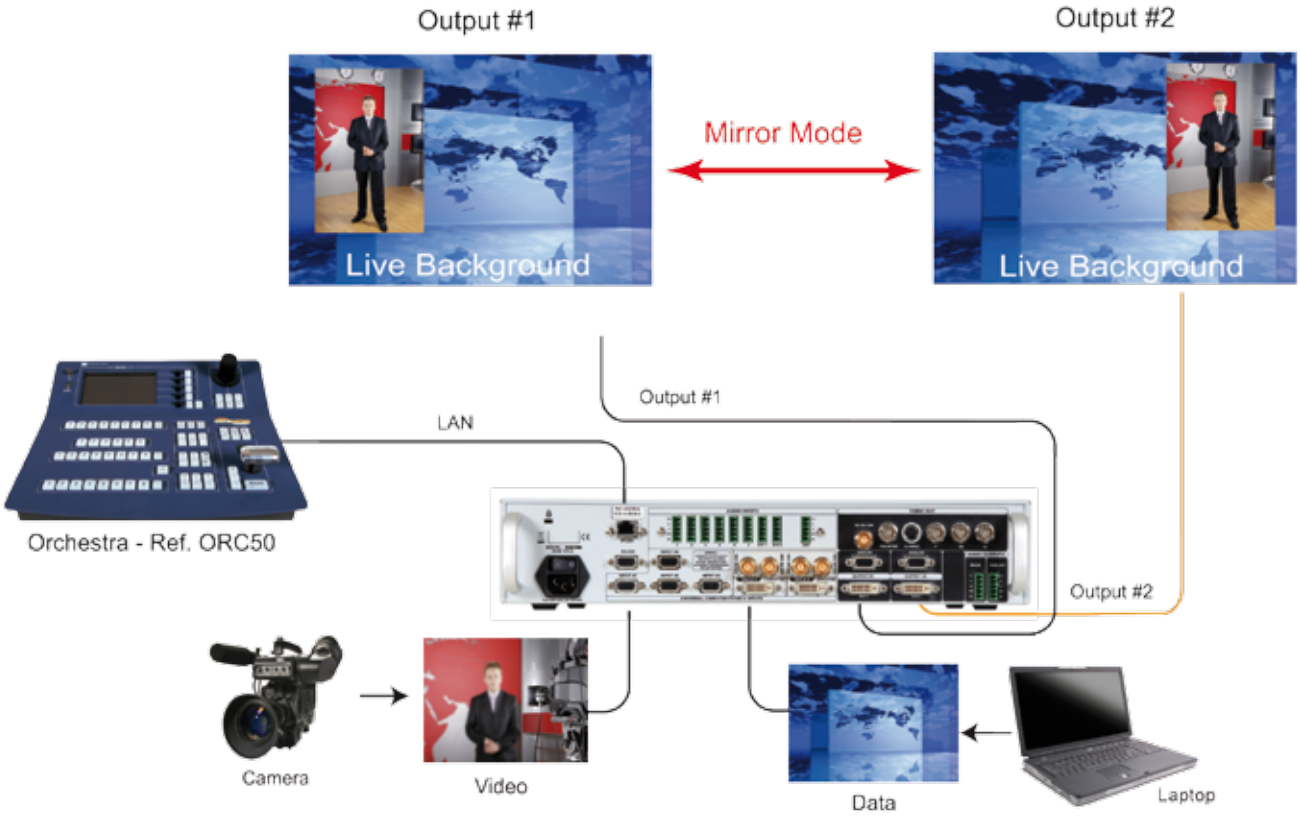
NOTE: for further information concerning our optional remote controllers, please connect to our website on: **www.analogway.com**

7-1. ABOUT APPLICATION NOTES

Application notes are intended to make the use of the **Smart MatriX** as easy as possible, by providing visual help in setting up your equipment. In an effort to make the use of our machines the most pleasant experience possible, the **Analog Way** team is constantly aiming to create easy to follow examples, update information, and furnish our website with useful user information.

Please check on ***www.analogway.com***.

7-2. APPLICATION NOTES

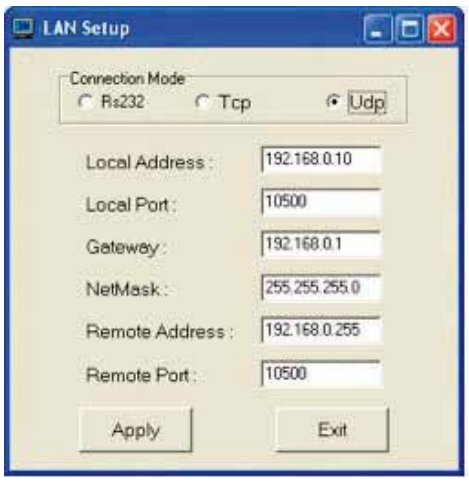


7-3. EXTERNAL PROGRAMMING

If you need to use your own Software Control program from a PC or automation, the device allows communication through an ASCII code protocol. All commands can be found on the CD-Rom shipped with the **Smart MatriX** in the “External Programming” file.

All **Analog Way** products equipped with a RS-232 input are compatible with Crestron, AMX, Medialon, and most major control systems. TCP/IP control ports are also available on most Analog Way products, as standard or as options.

To control a **Smart MatriX** with an External Remote Controller (PC Software Control - Touch Pad Controller…) follow the indications below:



1. First establish a RS-232 communication between the Remote Control Software and the **Smart MatriX**, in order to setup the LAN parameters of the product.

2. In the “Control” - “**Smart MatriX** LAN Setup” menu, configure the connection of the **Smart MatriX** in UDP mode and setup the Local and Remote Addresses as well as the Local and Remote Ports in concordance with your Network.

3. Configure the TCP/IP address of your External Remote Controller.
   In example: 192.168.000.001

4. Setup the UDP connection of your External Remote Controller in concordance with your Network.

   For example on the Remote Software in the “Control” - “RS232/ LAN Setup” - “LAN/Setup” menu :

5. Setup the LAN parameters in UDP mode in the “Console” - “LAN Setup” menu.

   For example: RK Address: 192.168.000.002
   Remote Address: 192.168.000.010
   Gateway Address: 192.168.000.001
   RK Port: 10500
   Remote Port: 10500
   Netmask: 255.255.255.000

6. Select the LAN communication port in the remote controller console - “RS232/LAN port” menu.

7. You can now control your **Smart MatriX** with an External Remote Controller.

8-1. ANALOG WAY LIMITED WARRANTY

All **Analog Way** products have a 3 year warranty on parts and labor, back to factory. This warranty does not include faults resulting from user negligence, special modifications, electrical surges, abuse (drop/crush), and/or other unusual damage.

8-2. SERVICES AND RMA

In the unlikely event that a product is required to return for repair, please call the regional Maintenance center / Customer Service, and ask to receive a Return Material Authorization number (RMA). Three regional maintenance centers are available depending on your location. See map below for information on which regional maintenance center you depend on.

RMA Conditions:

1. Prior to returning any item, you must receive a Return Material Authorization (RMA) number.
2. All RMA numbers must appear on the return-shipping label.
3. All shipping and insurance charges on all RMAs must be prepaid by the customer.

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CONTACT INFORMATION

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For more documentation, general information, or simply to keep up to date with new releases and upcoming Analog Way products, please log on to **www.analogway.com**.

Before calling your regional maintenance center, please gather the following information :

- Serial number of the unit
- Firmware version (look in : CONTROL MENU/VERSIONS)
- Model reference (**SMX200**)
- Description of failure

INFORMATION ON UNIT DISPOSAL

In the European Union :
If the product is used for business purposes and you want to discard it :

Please contact your Analog Way dealer who will inform you about take-back of the product. You might be charged for the costs arising from take-back and recycling.

For Spain :
Please contact the established collection system or your local authority for take-back of your used product.

In other countries outside the EU :
If you wish to discard of this product, please contact your local authorities and ask for the correct method of disposal.

Version: 4.00 - 07/12/2011
Code: 140122

Designs and specifications are subject to change without notice
The illustrations and screens described in this manual may be exaggerated or simplified for easy recognition and may be slightly different from the actual unit.

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